Palo Alto Networks Inc
Form 4
November 23, 2016

FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

OMB APPROVAL

OMB Number:	3235-0287
Expires:	January 31, 2005
Estimated average burden hours per response...	0.5

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. *See* Instruction 1(b).

(Print or Type Responses)

1. Name and Address of Reporting Person *
Anderson Mark

(Last) (First) (Middle)

C/O PALO ALTO NETWORKS, INC., 4401 GREAT AMERICA PKWY.

(Street)

SANTA CLARA, CA 95054

(City) (State) (Zip)

2. Issuer Name **and** Ticker or Trading Symbol
Palo Alto Networks Inc [PANW]

3. Date of Earliest Transaction (Month/Day/Year)
11/21/2016

4. If Amendment, Date Original Filed(Month/Day/Year)

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

_____ Director _____ 10% Owner
__X__ Officer (give title below) _____ Other (specify below)
President

6. Individual or Joint/Group Filing(Check Applicable Line)
_X_ Form filed by One Reporting Person
___ Form filed by More than One Reporting Person

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1.Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)		4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock	11/21/2016		S		20,111 (1)	D	$ 159.866	277,063	D	

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

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SEC 1474 (9-02)

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned
(*e.g.*, puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)		5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)		6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Underlying Securities (Instr. 3 and 4)		8. Price of Derivative Security (Instr. 5)	9. Nu Deriv Secur Bene Owne Follo Repo Trans (Instr
				Code	V	(A)	(D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares		

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
Anderson Mark C/O PALO ALTO NETWORKS, INC. 4401 GREAT AMERICA PKWY. SANTA CLARA, CA 95054			President	

Signatures

/s/ Jeff True, Attorney-in-Fact for Mark Anderson	11/23/2016
**Signature of Reporting Person	Date

Explanation of Responses:

***** If the form is filed by more than one reporting person, *see* Instruction 4(b)(v).

****** Intentional misstatements or omissions of facts constitute Federal Criminal Violations. *See* 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

(1) Represents the number of shares automatically sold upon vesting of restricted stock units and restricted stock awards to cover tax withholding obligations.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *see* Instruction 6 for procedure.
Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number. $0.0001 par value per share, and 200,000,000 shares of preferred stock, $0.0001 par value per share.

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Special Meetings of Shareholders	Intrexon s bylaws provide that a special meeting may be called by the board of directors, the chairman of the board of directors or the chief executive officer. Intrexon s bylaws also provide that the vote of 25 percent of its shareholders is required to call a special meeting, and that shareholders may only conduct business at special meetings of shareholders that was specified in the notice of the meeting.	A special meeting of the shareholders may be called by Medistem s board of directors or upon the written request of 51% of the shares then outstanding and entitled to vote thereat. In addition, under the NRS, any two directors or Medistem s president may call a special meeting of the shareholders. In accordance with the NRS, Medistem s bylaws provide that a written notice of the time, place and purpose of the meeting must be given to each shareholder entitled to vote at the meeting not less than 10 days nor more than 60 days prior to the meeting. Notice of special meetings of shareholders must also include a description of the purpose or purposes for which the meeting is being called.
Shareholder Nominations and Shareholder Proposals	Intrexon s bylaws provide that nominations for the election of directors may be made at an annual shareholder meeting only (i) pursuant to Intrexon s notice of meeting (or any supplement thereto), (ii) by or at the direction of the board or (iii) by any shareholder of Intrexon who (a) was a shareholder of record of Intrexon (and, with respect to any beneficial owner, if different, on whose behalf such nominations or proposal of other business are made, only if such beneficial owner was the beneficial owner of shares of Intrexon) at the time the notice provided for in its bylaws is delivered to the Secretary and at the time of the annual meeting, (b) is entitled to vote at the meeting, and (c) complies with the notice procedures set forth in its bylaws. To comply with the notice procedures set forth in Intrexon s bylaws, a shareholder must have given notice thereof in writing to the Secretary and any such proposed business other than the nominations of persons for election to the board must constitute a proper matter for shareholder	Medistem s articles of incorporation and bylaws do not contain specific provisions addressing shareholder nominations and proposals. Further, the NRS does not specifically address the issue.

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action. To be timely, a shareholder s notice shall be delivered to the Secretary at Intrexon s principal executive offices not later than the close of business on the 90th day nor earlier than the close of business on the 120th day prior to the first anniversary of the preceding year s annual meeting; provided, however, that in the event that the date of the annual meeting is more than 30 days before or more than 70 days after such anniversary date, notice by such shareholder must be so delivered not earlier than the close of business on the 120th day prior to such annual meeting and not later than the close of business on the later of the 90th day prior to such annual meeting or the 10th day following the day on which public announcement of the date of such meeting is first made by Intrexon.

To be in proper form, a shareholder s notice to the Secretary must:

(i) set forth, as to the shareholder giving the notice and the beneficial owner, if any, on whose behalf the nomination or proposal is made:

(a) the name and address of such shareholder, as they appear on Intrexon s books, and of such beneficial owner, if any;

(b) (1) the class or series and number of shares of Intrexon which are, directly or indirectly owned beneficially and of record by such shareholder rand such beneficial owner;

(2) any option, warrant, convertible security, stock appreciation right, or similar right with an exercise or conversion privilege or a settlement payment or mechanism at a price related to any class or series of shares of

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Intrexon or with a value derived in whole or in part from the value of any class or series of shares of Intrexon, whether or not such instrument or right shall be subject to settlement in the underlying class or series of capital stock of Intrexon or otherwise (a Derivative Instrument) directly or indirectly owned beneficially by such shareholder and such beneficial owner and any other direct or indirect opportunity to profit or share in any profit derived from any increase or decrease in the value of shares of Intrexon;

(3) any proxy, contract, arrangement, understanding, or relationship pursuant to which such shareholder and such beneficial owner has a right to vote any shares of any security of Intrexon;

(4) any short interest in any security of Intrexon;

(5) any rights to dividends on the shares of Intrexon owned beneficially by such shareholder and such beneficial owner that are separated or separable from the underlying shares of Intrexon;

(6) any proportionate interest in shares of Intrexon or Derivative Instruments held, director or indirectly, by a general or limited partnership in which such shareholder and such beneficial owner is a general partner or, directly or indirectly, beneficially owns an interest in a general partner;

(7) any performance-related fees (other than an asset-based fee)

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that such shareholder and such beneficial owner is entitled to based on any increase or decrease in the value of shares of Intrexon or Derivative Instruments, if any, as of the date of such notice, including without limitation any such interests held by members of such shareholder and such beneficial owner s immediate family sharing the same household (which information shall be supplemented by such shareholder and beneficial owner, if any, not later than 10 days after the record date for the meeting to disclose such ownership as of the record date);

(c) any other information relating to such shareholder and beneficial owner, if any, that would be required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for, as applicable, the proposal and/or for the election of directors in a contested election pursuant to Section 14 of the Exchange Act and the rules and regulations promulgated thereunder;

(d) a statement whether such shareholder or any other person known to the shareholder will deliver a proxy statement and form of proxy to holders of at least the percentage of Intrexon s voting shares required under applicable law to carry the proposal; and

(e) a representation that the shareholder is a holder of record of stock of Intrexon entitled to vote at such meeting and intends

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to appear in person or by proxy at the meeting to make the nomination or propose such business specified in the notice before the meeting;

(ii) if the notice relates to any business other than a nomination of a director or directors that the shareholder proposes to bring before the meeting, set forth:

(a) a brief description of the business desired to be brought before the meeting, the reasons for conducting such business at the meeting and any material interest of such shareholder and beneficial owner, if any, in such business;

(b) the complete text of any resolutions intended to be presented at the meeting and in the event that such business includes a proposal to amend the bylaws of Intrexon, the language of the proposed amendment; and

(c) a description of all agreements, arrangements and understandings between such shareholder and beneficial owner, if any, and any other person or persons (including their names) in connection with the proposal of such business by such shareholder;

(iii) set forth, as to each person, if any, whom the shareholder proposes to nominate for election or reelection to the board:

(a) all information relating to such person that would be required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for election of directors in a

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contested election pursuant to Section 14 of the Exchange Act and the rules and regulations promulgated thereunder (including such person s written consent to being named in the proxy statement as a nominee and to serving as a director if elected) and;

(b) a description of all direct and indirect compensation and other material monetary agreements, arrangements and understandings during the past three years, and any other material relationships, between or among such shareholder and the beneficial owner, if any, and their respective affiliates and associates, or others acting in concert therewith, on the one hand, and each proposed nominee, and his or her respective affiliates and associates, or others acting in concert therewith, on the other hand, including, without limitation all information that would be required to be disclosed pursuant to Rule 404 promulgated under Regulation S-K under the Exchange Act if the shareholder making the nomination and any beneficial owner on whose behalf the nomination is made, if any, or any affiliate or associate thereof or person acting in concert therewith, were the registrant for purposes of such rule and the nominee were a director or executive officer of such registration; and

(iv) with respect to each nominee for election or reelection to the board, include a completed and signed questionnaire, representation and agreement as required by the bylaws.

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Shareholder Action by Written Consent	The VSCA allows action by written consent to be made by the shareholders in lieu of a shareholder s meeting if the action is adopted or taken by all the shareholders entitled to vote on the action. Under the VSCA, the articles of incorporation may authorize action by shareholders by less than unanimous written consent provided that the taking of such action is consistent with any requirements that may be set forth in Intrexon's articles of incorporation, the bylaws, or the VSCA. Intrexon s bylaws do not provide for action by shareholders by less than unanimous written consent.	Under the NRS, shareholder action with respect to a public company may be taken without a meeting only if written consents setting forth such action are signed by all shareholders entitled to vote on the action. The Medistem amended and restated bylaws provide that any action that could be taken at a meeting of the shareholders may be taken without a meeting if one or more written consents setting forth the action so taken are signed by all shareholders entitled to vote on the action and are delivered to the corporation.
Number of Directors	Intrexon s bylaws provide that the number of directors constituting the board shall be designated by resolution of the board, but shall not be more than 10; provided that no decrease in the number of directors shall shorten or terminate the term of any incumbent director. Intrexon s amended and restated articles of incorporation provide that the board of directors shall consist of a number of directors as shall be specified in accordance with the bylaws. There are currently eight directors serving on the Intrexon board of directors.	The Medistem amended and restated bylaws provide that the board of directors shall be composed of not less than five nor more than nine members, the specific number to be set by resolution of the board of directors or the shareholders. There are currently seven directors serving on the Medistem board of directors.
Election of Directors	Intrexon s bylaws provide that a nominee for director shall be elected to the board if the votes cast for such nominee s election exceed the votes cast against such nominee s election; provided, however, that such directors shall be elected by a plurality of the votes cast at any meeting of the shareholders for which (i) the Secretary receives a notice that shareholder has nominated a person for election to the board in compliance with the advance notice requirements for shareholder nominees for director set forth in the bylaws, and (ii) such	Pursuant to the NRS, unless Medistem s articles of incorporation or its bylaws require more than a plurality of votes cast, Medistem s directors are elected at annual meetings of shareholders by a plurality of votes cast at the election. The Medistem amended and restated bylaws provide that directors shall be elected by a plurality of the voting power of the shares present in person or represented by proxy at the meeting and entitled to vote on the election of directors.

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	nomination has not been withdrawn by such shareholder on or prior to the 10th day preceding the date Intrexon first mails its notice of meeting for such meeting to the shareholders. If directors are to be elected by a plurality of the votes cast, the shareholders shall not be permitted to vote against a nominee.	
Removal of Directors	The VSCA provides that shareholders may remove directors with or without cause by the affirmative vote of the holders of at least a majority of the stock entitled to vote generally in the election of directors unless the articles of incorporation provide that directors may only be removed with cause. Intrexon s amended and restated articles of incorporation provide that, subject to the rights of preferred shareholders, directors may be removed only with cause and only by the affirmative vote of a majority of the votes entitled to be cast by each voting group that is entitled to vote generally in the election of directors.	The Medistem amended and restated articles of incorporation provide that directors may be removed only for cause; such removal shall be by the holders of not less than two-thirds of the shares entitled to elect the director whose removal is sought.
Limitation on Liability of Directors	The VSCA provides that in any proceeding brought by or in the right of a corporation or brought by or on behalf of shareholders of a corporation, the damages assessed against an officer or director arising out of a single transaction, occurrence or course of conduct may not exceed the lesser of (i) the monetary amount, including the elimination of liability, specified in the articles of incorporation or, if approved by the shareholders, in the bylaws as a limitation on or elimination of the liability of the officer or director or (ii) the greater of (a) $100,000 or (b) the amount of cash compensation received by the officer or director from the corporation during the 12 months immediately preceding the act or omission for which liability was imposed. The liability of an officer or director is not limited under the VSCA	Under the NRS, a director or officer is not individually liable to the corporation or its shareholders or creditors for any damages as a result of any act or failure to act in his or her capacity as a director or officer unless it is proven that (a) the director s or officer s act or failure to act constituted a breach of his or her fiduciary duties as a director or officer; and (b) the breach of those duties involved intentional misconduct, fraud or a knowing violation of law.

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	or a corporation s articles of incorporation and bylaws if the officer or director engaged in willful misconduct or a knowing violation of the criminal law or of any federal or state securities law.	
	Intrexon s amended and restated articles of incorporation provides that, to the fullest extent that the VSCA, as it exists or as it may hereafter be amended, permits the limitation or elimination of the liability of directors and officers in a proceeding brought by or in the right of Intrexon or brought by or on behalf of the Intrexon shareholders, a director or officer of Intrexon shall not be liable to Intrexon or its shareholders for monetary damages arising out of a single transaction occurrence or course of conduct in excess of $1.00. Notwithstanding the foregoing, the liability of a director or officer shall not be eliminated if the director or officer engaged in willful misconduct or a knowing violation of criminal law or of any federal or state securities law, including without limitation, any claim of unlawful insider trading or manipulation of the market for any security.	The Medistem amended and restated articles of incorporation provide that, to the full extent permitted by the NRS (as it presently exists or as it may be amended from time to time), directors shall not be liable to Medistem or its shareholders for monetary damages for conduct as a director, except for liability of the director (i) for acts or omissions that involve intentional misconduct by the director or a knowing violation of law by the director, (ii) for conduct violating the NRS, or (iii) for any transaction from which the director will personally receive a benefit in money, property or services to which the director is not legally entitled.
Indemnification of Directors and Officers	Under the VSCA, unless limited by its articles of incorporation, a corporation must indemnify a director or officer who entirely prevails in the defense of any proceeding to which he was a party because he is or was a director or officer of the corporation against reasonable expenses incurred by him in connection with the proceeding. Virginia law permits a corporation to indemnify, after a determination has been made that indemnification of the director is permissible in the circumstances because he has met the following standard of conduct, an individual made a party to the proceeding because he is or was a director against liability incurred in	The NRS requires a corporation indemnify a director or officer to the extent that the director, officer, employee or agent, who, by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, has been included as a party to an action and who has been successful on the merits or otherwise in defense of any action, suit or proceeding, or in defense of any claim, issue or matter therein reasonable expenses incurred by him in connection with the proceeding. Nevada law permits a corporation to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit (including if by

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the proceeding if (i) he conducted himself in good faith; (ii) he believed that his official conduct was in the best interest of the corporation and all other non-official conduct was not opposed to the corporation s best interest; and (iii) in the case of a criminal proceeding, he had no reasonable basis to believe his conduct was unlawful.	or in the right of the corporation to procure a judgment in its favor) or proceeding, whether civil, criminal, administrative or investigative, except an action by or in the right of the corporation, by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses, including attorneys fees, judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with the action, suit or proceeding if the person is not liable for not having discharged his fiduciary duties under Nevada law or acted in good faith and in a manner which he or she reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe the conduct was unlawful.
A Virginia corporation may not indemnify a director or officer in connection with a proceeding by or in which the director or officer is adjudged liable on the basis that he received an improper personal benefit. A director or officer also cannot be indemnified in connection with a proceeding by or in the right of the corporation in which the director or officer was adjudged liable to the corporation. In addition, under the VSCA, any corporation may indemnify, including an indemnity with respect to a proceeding by or in the right of the corporation, and may provide for advances or reimbursement of expenses to, any director, officer, employee or agent that is authorized by the articles of incorporation or any bylaw approved by the shareholders or any resolution adopted before or after the subject event by the shareholders, except an indemnity against willful misconduct or a knowing violation of criminal law.	Medistem s articles of incorporation provide that Medistem shall indemnify any individual made a party to a proceeding because that individual is or was a director of the corporation and shall advance or reimburse the reasonable expenses incurred by the individual in advance of final disposition of the proceeding, without regard to the limitations in NRS Chapter 78.7502, or any other limitation which may hereafter be enacted, to the extent such limitation may be disregarded if authorized by the Articles of Incorporation, to the full extent and under all circumstances permitted by applicable law
Intrexon s amended and restated articles of incorporation require indemnification of directors and officers with respect to certain liabilities, expenses, and other amounts imposed on them by reason of having been a director or officer, except in the case of willful misconduct or a knowing violation of criminal law.	
Unless ordered by a court of competent jurisdiction, any indemnification pursuant to	

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Intrexon s amended and restated articles of incorporation shall be made by Intrexon only as authorized in the specific case upon a determination that indemnification of the individual is permissible in the circumstances because he or she met the standard of conduct that warrants indemnification, as discussed above. Such determination shall be made: (i) if there are two or more disinterested directors, by the board by a majority vote of all disinterested directors, a majority of whom shall constitute a quorum; or by a majority vote of a committee consisting of two or more disinterested directors appointed by such a vote; or (ii) by special legal counsel selected by the board or its committee in the manner heretofore provided or, if there are fewer than two disinterested directors, selected by a majority vote of the board (in which selection directors who do not qualify as disinterested directors may participate); or (iii) by the shareholders, but shares owned by or voted under the control of individuals who at the time do not qualify as disinterested directors may not be voted on the determination. Authorization of indemnification, evaluation as to reasonableness of expenses and determination and authorization of advancements for expenses shall be made in the same manner as the determination that indemnification is permissible, except that if there are fewer than two disinterested directors or if the determination is made by special legal counsel, authorization of indemnification and evaluation as to reasonableness of expenses shall be made by those selecting such counsel.

Notwithstanding the foregoing, in the event there has been a change in the composition of a majority of the board after the date of the alleged act or omission with respect to which

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	indemnification is claimed, any determination as to indemnification and advancement of expenses with respect to any claim for indemnification made pursuant to the amended and restated articles of incorporation shall be made by special legal counsel agreed upon by the board and the applicant. If the board and the applicant are unable to agree upon such special legal counsel the board and the applicant each shall select a nominee, and the nominees shall select such special legal counsel.	
Amendments to Certificate/Articles of Incorporation	The VSCA generally requires that any amendment to the articles of incorporation be approved by each voting group entitled to vote on the proposed amendment by at least two-thirds of all the votes entitled to be cast by that voting group, unless the VSCA otherwise requires a greater vote or the articles of incorporation provide for a greater or lesser vote, or a vote by separate voting groups, so long as the vote provided for is not less than a majority of all the votes cast on the amendment by each voting group entitled to vote. Intrexon s amended and restated articles of incorporation provide that an amendment or restatement of the articles of incorporation for which the VSCA requires shareholder approval shall be approved by a majority of the votes entitled to be cast by each voting group that is entitled to vote on the matter, unless in submitting any such matter to the shareholders the board shall require a greater vote.	Under the NRS, Medistem s board of directors must adopt a resolution setting forth a proper amendment to Medistem s articles of incorporation and must call either a special meeting of the shareholders entitled to vote on the amendment or direct that the amendment be considered at the next annual meeting of Medistem s shareholders. The Medistem amended and restated articles of incorporation provide that Medistem may amend or repeal any provision of the amended and restated articles of incorporation in any manner permitted by law.
Amendments to Bylaws	Under the VSCA, unless other provision is made in the articles of incorporation or bylaws, a majority of the directors or a majority of the shareholders present and entitled to vote may adopt, amend or repeal the bylaws.	Under Nevada law, except as otherwise provided by a bylaw adopted by Medistem s shareholders, Medistem s board of directors can amend or repeal the bylaws, or adopt new bylaws.

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	Intrexon s amended and restated articles of incorporation provides that	Medistem articles of incorporation provide that Medistem s board of directors shall have the power to
	the board of directors is expressly authorized and empowered to adopt, amend or repeal the bylaws, provided, however, that bylaws adopted by the board pursuant to this power may be altered, amended or repealed by the board or by the shareholders having voting power with respect thereto. In the case of any such action by shareholders, the affirmative vote of the holders of a majority of the voting power of the then outstanding voting stock, voting together as a single voting group, shall be required in order for the shareholders to alter, amend or repeal any provision of the bylaws or to adopt any additional bylaw	adopt, amend, or repeal the bylaws, subject to the power of the shareholders to amend or repeal such bylaws. The shareholders shall also have the power to adopt, amend or repeal the bylaws.
Vote on Certain Fundamental Issues	The VSCA provides that, unless a corporation s articles of incorporation provide for a higher or lower vote, specified significant corporate actions must be approved by the affirmative vote of the holders of at least two-thirds of the votes entitled to be cast on the matter. Corporate actions requiring at least a two-thirds vote include an amendment to a corporation s articles of incorporation, adoption of plans of merger or exchange, sales of all or substantially all of the corporation s assets other than in the ordinary course of business and adoption of plans of dissolution. The VSCA provides that a corporation s articles may either increase the vote required to approve these actions or may decrease the required vote to not less than a majority of the votes entitled to be cast.	Under the NRS, a merger or share exchange must be adopted and recommended by the board of directors and approved by a majority of all votes entitled to vote, unless another percentage is specified in the articles of incorporation. Under the NRS, a merger may also become effective without the approval of the surviving corporation s shareholders if certain requirements are met.
	Intrexon s amended and restated articles of incorporation provide that such fundamental actions for which the VSCA requires shareholder approval shall be approved by a majority of the votes entitled to be cast by each voting group that is	Medistem s bylaws provide that, except as otherwise provided by statute or by the articles of incorporation, any corporate action, other than the election of directors, to be taken by vote of the shareholders, shall be authorized by a majority of votes cast at the meeting of shareholders by the holders of shares entitled to vote thereon. Medistem s articles of incorporation do not address the issue.

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	entitled to vote on the matter, unless in submitting any such matter to the shareholders the board shall require a greater vote. Under the NRS, a merger or share exchange must be adopted and recommended by the board of directors and approved by a majority of all votes entitled to vote, unless another percentage is specified in the articles of incorporation. Under the NRS, a merger may also become effective without the approval of the surviving corporation s shareholders if certain requirements are met.	
Certain Business Combinations Restrictions	Virginia law contains provisions governing affiliated transactions. In general, these provisions prohibit a Virginia corporation from engaging in affiliated transactions with any holder of more than 10 percent of any class of its outstanding voting shares, or an interested shareholder, for a period of three years following the date that such person became an interested shareholder unless:	Under the NRS, except under certain circumstances, a corporation is not permitted to engage in a business combination with any interested shareholder for a period of three years following the date such shareholder became an interested shareholder. An interested shareholder is a person who owns 10% or more of the outstanding shares of voting stock. Nevada permits a corporation to opt out of the application of these business combinations provisions by so providing in the articles of incorporation; Medistem has not opted out of these provisions.
	a majority of (but not fewer than two) disinterested directors of Intrexon and the holders of two-thirds of the voting shares, other than the shares beneficially owned by the interested shareholder, approve the affiliated transaction; or	
	before or on the date the person became an interested shareholder, a majority of disinterested directors approved the transaction that resulted in the shareholder becoming an interested shareholder.	
	Affiliated transactions subject to this approval requirement include mergers, share exchanges, material dispositions of corporate assets not in the ordinary course of business, any dissolution of Intrexon proposed by	

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	or on behalf of an interested shareholder or any reclassification, including reverse stock splits, recapitalizations or mergers of the corporation with its subsidiaries, which increases the percentage of voting share owned beneficially by an interested shareholder by more than five percent.	
	Virginia law permits a corporation to exempt itself from this statutory provision by placing a statement to that effect in its articles of incorporation. Intrexon s amended and restated articles of incorporation do not specifically address the Virginia statute regarding affiliated transactions; therefore, Intrexon is subject to this provision.	
Shareholder Rights Plan	Intrexon has no shareholder rights plan.	Medistem has no shareholder rights plan.

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Dissenters rights

General

Under Chapter 92A.300-500 of the Nevada Revised Statutes, which is referred to herein as the NRS, holders of Medistem s common stock are entitled to dissent from, and obtain payment of the fair value of their shares in cash together with accrued interest in the event of, the consummation of the merger, instead of receiving the merger consideration they would otherwise be entitled to pursuant to the merger agreement. The following summarizes the material rights of holders of Medistem common stock under Chapter 92A.300-500. You should read the applicable sections of Chapter 92A.300-500, a copy of which is attached to this proxy statement/prospectus as Annex B, and which governs dissenters rights. The summary below is qualified in its entirety by reference to Chapter 92A.300-500.

Pursuant to Chapter 92A.300-500, when a proposed merger is to be submitted to a vote at a meeting of shareholders, as in the case of this special meeting, the meeting notice must state that shareholders are or may be entitled to assert dissenters rights and must be accompanied by a copy of Chapter 92A.300-500. The notice of special meeting included with this proxy statement/prospectus constitutes notice to the holders of Medistem common stock, and a copy of Chapter 92A.300-500 is attached to this proxy statement/prospectus as Annex B.

If you are contemplating the possibility of exercising your dissenters rights in connection with the merger, you should carefully review the text of Chapter 92A.300-500. If you do not fully and precisely satisfy the procedural requirements of Chapter 92A.300-500, you will lose your dissenters rights. If any holder of shares of Medistem common stock who asserts dissenters rights under the NRS withdraws or loses (through failure to perfect or otherwise) the right to obtain payment for such holder s shares under Chapter 92A.300-500, then such shareholder s shares will be converted, or will be treated as if they had been converted, into the right to receive the merger consideration, without interest and subject to any applicable withholding of taxes. Medistem will not provide you with any notice regarding your dissenters rights other than as described in this proxy statement/prospectus and the notice of special meeting included with this proxy statement/prospectus.

Requirements for exercising dissenters rights

Holders of shares of Medistem common stock who do not vote in favor of the merger, who hold their shares through the effective time of the merger and who follow the procedures set forth in Sections 92A.300 to 92A.500 inclusive, of the NRS, which we refer to as the Dissenters Rights Provisions, will be entitled to dissent from the merger and demand payment of the fair value of their shares Medistem common stock. The fair value of the shares of Medistem common stock as used in the Dissenters Rights Provisions is the value of the shares of Medistem common stock immediately before the effectuation of the proposed merger, excluding appreciation or depreciation in anticipation of the merger unless exclusion would be inequitable, using customary and current valuation concepts and techniques generally employed for similar businesses in the context of a merger, and without discounting for lack of marketability or minority status.

If you elect to dissent, you must deliver to Medistem a written notice of dissent stating that you intend to demand payment for your shares if the merger is consummated, and must refrain from

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voting on the merger proposal. This notice must be delivered Medistem before the vote on the merger proposal at the special meeting. If you fail to comply with these requirements, you will not be entitled to dissenters rights.

Within 10 days after the effective time of the merger, Merger Sub will give written notice of the effective date of the merger by certified mail to each Medistem shareholder who properly delivered a written notice of dissent. Merger Sub s notice will also state where demand for

payment must be sent and where and when share certificates must be deposited, among other

information. Within the time period set forth in the notice, which may not be less than 30 days nor more than 60 days following the date notice is delivered, the dissenting shareholder must make a written demand on Merger Sub for payment of the fair value of his or her shares and deposit his or her share certificates in accordance with the notice.

Within 30 days after the receipt of the dissenters demand for payment, Merger Sub will pay each dissenter who complied with the required procedures the amount it estimates to be the fair value of the dissenters shares of Medistem common stock, plus accrued interest. Additionally, the payment must be accompanied by a balance sheet as of the end of a fiscal year ending not more than 16 months before the date of payment, a statement of income for that year, a statement of changes in the shareholders equity for that year and the latest available interim financial statements, if any, a statement as to how fair value was calculated, a statement as to how interest was calculated, and a statement of the dissenters right to demand payment of fair value under Nevada law.

Following receipt of payment for the shares, a dissenting shareholder, within 30 days, may send Merger Sub notice containing such shareholder s own estimate of fair value and accrued interest, and demand payment for that amount less the amount received pursuant to Merger Sub s payment of fair value to such shareholder. This right is waived if the shareholder does not make written demand within 30 days of receiving Merger Sub s payment or offer of payment for the shareholders shares and the shareholder will only be entitled to the payment made or offered.

If a demand for payment remains unsettled, Merger Sub will petition the court to determine fair value and accrued interest. If Merger Sub fails to commence an action within 60 days following the receipt of the shareholder s demand, Merger Sub will pay to the shareholder the amount demanded by the shareholder in the shareholder s notice containing the shareholder s estimate of fair value and accrued interest.

All dissenting holders, whether residents of Nevada or not, must be made parties to the action and the court will render judgment for the fair value of their shares of Medistem common stock. Each party must be served with the petition. The judgment shall include payment for the amount, if any, by which the court finds the fair value of such shares, plus interest, exceeds the amount already paid. The costs and expenses of bringing the action will be determined by the court. If the court finds that the demand of any dissenting shareholder for payment was arbitrary, vexatious or otherwise not in good faith, the court may assess costs, including reasonable fees of counsel and experts, against such shareholder. In addition, reasonable fees and expenses of counsel and experts may be assessed against Merger Sub if the court finds that it did not substantially comply with the requirements of the Dissenters Rights Provisions or that it acted arbitrarily, vexatiously, or not in good faith with respect to the rights granted to dissenters under Nevada law.

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The foregoing discussion is not a complete statement of the law pertaining to dissenters rights under the Dissenters Rights Provisions and is qualified in its entirety by the full text of the Dissenters Rights Provisions, which is attached to this proxy statement/prospectus as Annex B. You are encouraged to read Annex B carefully. All references in the Dissenters Rights Provisions and in this summary to a shareholder are to the record holder of the shares of Medistem common stock as to which dissenters rights are asserted. A person having a beneficial interest in shares of Medistem common stock held of record in the name of another person, such as a

broker, fiduciary, depositary or other nominee, must act promptly to cause the record holder to follow the steps summarized above properly and in a timely manner to perfect dissenters rights.

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Description of Intrexon s business

Overview

At present rates of global industrialization and population growth, food and energy supplies and environmental and healthcare resources are becoming more scarce and/or costly. Intrexon (with respect to this section, the Company, Intrexon, us , our or we) believes it is not a viable option for mankind to continue on this path new solutions will be necessary to preserve and globally expand a high quality of life. We believe that synthetic biology is a solution.

We believe Intrexon is a leader in the field of synthetic biology, an emerging and rapidly evolving discipline that applies engineering principles to biological systems. Using our suite of proprietary and complementary technologies, we design, build and regulate gene programs, which are DNA sequences that consist of key genetic components. A single gene program or a complex, multi-genic program is fabricated and stored within a DNA vector. Vectors are segments of DNA used as a vehicle to transmit genetic information. DNA vectors can, in turn, be introduced into cells in order to generate a simple or complex cellular system, which are the basic and complex cellular activities that take place within a cell and the interaction of those systems in the greater cellular environment. It is these genetically modified cell systems that can be used to produce proteins, produce small molecules, or serve as cell-based products, which enable the development of new and improved products and manufacturing processes across a variety of end markets, including healthcare, food, energy and environmental sciences. Our synthetic biology capabilities include the ability to precisely control the amount, location and modification of biological molecules to control the function and output of living cells and optimize for desired results at an industrial scale.

Working with our collaborators, we seek to create more effective, less costly and more sustainable solutions than can be provided through current industry practices. We believe our approach to synthetic biology can enable new and improved biotherapeutics, increase the productivity and quality of food crops and livestock, create sustainable alternative energy sources and chemical feedstocks and provide for enhanced environmental remediation. Our business model is to commercialize our technologies through exclusive channel collaborations, or ECCs, with collaborators that have industry expertise, development resources and sales and marketing capabilities to bring new and improved products and processes to market.

Our technologies combine the principles of precision engineering, statistical modeling, automation and production at an industrial scale. We efficiently engineer precise and complex gene programs across many cell types. We apply the engineering principle of a ***design-build-test-learn*** continuum, through which we accumulate knowledge about the characteristics and performance of gene programs and cell lines. This process of continuous learning allows us to enhance our ability to design and build improved and more complex gene programs and cellular systems.

We believe our technologies are broadly applicable across many diverse end markets, including some end markets that have failed to recognize the applicability of synthetic biology or failed to efficiently utilize biologically based processes to produce products. We have devised our business model to bring many different commercial products to market through the formation of ECCs with collaborators that have expertise within specific industry segments, but, to date, no commercial products have been enabled by our technologies. In our ECCs, we provide expertise in the engineering, fabrication and modification of gene programs and cellular systems, and our

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collaborators are responsible for providing market and product development expertise, as well as regulatory, sales and marketing capabilities. Generally, our collaborators compensate us through technology access fees, royalties, milestones and reimbursements of certain costs. This business model allows us to leverage our capabilities and capital across a broader landscape of product opportunities and end markets than we would be capable of addressing on our own.

In certain strategic circumstances, we may enter into a joint venture with an ECC collaborator. In that event, we will enter into an ECC with a joint venture entity and may contribute access to our technology, cash or both into the joint venture which we will jointly control with our ECC collaborator. Pursuant to a joint venture agreement, we may be required to contribute additional capital to the joint venture, and we may be able to receive a higher financial return than we would normally receive from an ECC to the extent that we and our ECC collaborator are successful in developing one or more products. We recently executed the first two such joint venture agreements: one with a subsidiary of Sun Pharmaceutical Industries Ltd., an international specialty pharmaceutical company focused on chronic diseases, and one with OvaScience, Inc., a life sciences company focused on the discovery, development and commercialization of new treatments for infertility. Alternatively, where a collaborator wishes to work with us to develop an early-stage program, we may execute a research collaboration pursuant to which we receive reimbursement for our development costs but the exclusive license rights, and related access fees, are deferred until completion of an initial research program.

In 2011, we entered into our first collaboration and have steadily increased the number over the past three years, entering into new agreements and expanding existing ECCs. To date, we have entered into 21 such agreements and expansions with 17 different counterparties, of which 19 remain active. We have 18 active ECCs, including three expansions, and one research collaboration that we anticipate could, if successful, become an ECC. Under the ECCs, we are developing products in the fields of healthcare and food. In healthcare, our ECCs include programs in oncology, anti-infectives, antibiotics and tissue repair. In food, we are working to increase the productivity and nutritional value of salmon and other fish. We are also working to establish ECCs in the areas of energy and environmental sciences.

While the field of synthetic biology is still emerging, the addressable markets that may benefit from this approach are large and well-established. In healthcare, synthetic biology may provide new approaches to treating diseases, as well as improvements to the manufacture of existing products. It is estimated that the global human pharmaceuticals market is over $900 billion and that biological therapeutics represent approximately $150 billion of this market. While genetically modified salmon or trout may be considered new products, the global market for aquaculture was valued at approximately $110 billion in 2011. Genetically modified agricultural plants are already grown on more than 170 million hectares around the world and are worth an estimated $65 billion dollars. In energy, we are working to create novel, highly engineered organisms that use specific feed stocks to create commercially valuable end products, such as isobutanol, which already has a variety of technical and industrial applications and is also being investigated as a gasoline alternative.

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What is synthetic biology?

History

Synthetic biology entails the application of engineering principles to biological systems for the purpose of designing and constructing new biological systems or redesigning/modifying existing biological systems. Biological systems are governed by DNA, the building blocks of gene programs, which control cellular processes by coding for the production of proteins and other molecules that have a functional purpose and by regulating the activities of these molecules. This regulation occurs via complex biochemical and cellular reactions working through intricate cell signaling pathways, and control over these molecules modifies the output of biological systems.

In the early 1970s, scientists utilized basic tools and procedures for transferring DNA from one organism to another. Foundational tools included: gene programs contained in vectors; enzymes that could cut DNA at specific sites; and enzymes that could glue two complementary segments of DNA together. Developments between 1980 and the end of the 20th century advanced the field of genetic engineering, including automated DNA sequencing, DNA amplification via PCR and the creation of genetically modified organisms. However, the simplistic cut-and-paste nature of the available tools, and the absence of genomic sequence information, significantly restricted the scope of early synthetic biology efforts.

More recently, synthetic biology has been enabled by the application of information technology and advanced statistical analysis, also known as bioinformatics, to genetic engineering, as well as by improvements in DNA synthesis. Synthetic biology aims to engineer gene-based programs or codes to modify cellular function to achieve a desired biological outcome. For example, applications may include the replacement of a defective protein with a functional protein to treat a broad range of human and animal disease states, or the production of multiple proteins through the regulation of several genes in a cell to produce petrochemicals.

Our approach

The essence of our approach is to apply synthetic biology by using an iterative process that is rapid, automated and highly reproducible, in which we:

Design genes of interest and gene programs utilizing knowledge of cellular pathways and protein function;

Build biological molecules, gene programs and their variants to optimize performance of the biological system;

Test gene programs by inserting them into cellular systems and comparing the result(s) to the intended effects; and

Learn by utilizing information gained in our iterative processes to create better DNA vectors and gene programs using a more informed and efficient process to achieve improved outcomes.

As a result of our approach, we have developed extensive knowledge about many classes of DNA components and the rules governing their expression and activity. We have also assembled an inventory of these DNA components that we can use to rationally construct unique vectors rapidly and with predictable outcomes. The knowledge embedded in our DNA database allows us to create single gene and highly complex multigenic gene programs (an individual gene program containing multiple genes).

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To support our approach, we have developed, on our own and through acquisitions, a unique suite of technologies, and we continue to expand upon their capabilities. These technologies include: our UltraVector gene design and fabrication platform, and its associated library of modular DNA components; Cell Systems Informatics; Laser-Enabled Analysis and Processing, or LEAP; and mAbLogix. These technologies are complementary in nature and share the following key characteristics:

Platform neutral outcome oriented. We can work across different cell types with the objective of achieving the intended biological outcome allowing for product development across a broad spectrum of end markets.

Knowledge driven. We use statistical modeling tools and computational analysis to continually acquire more knowledge about biological systems and their design to continually improve our ability to develop new and improved products and processes for our collaborators.

Rationally designed. Our knowledge of biological systems and components allows us to design, build and select gene programs and predict the probable outcome of these programs.

Capable of complexity. Our technologies enable the design and precise control of complex biological molecules and multigenic gene programs.

Industrial scale. We use engineering principles and automation to enable products based on synthetic biology that are commercially viable.

Our competitive strengths

We believe that our technologies and our approach to synthetic biology ***design-build-test-learn*** give us a competitive advantage over traditional industrial processes as well as current approaches to synthetic biology.

We believe that we have the following competitive strengths:

We have a suite of proprietary and complementary technologies

We have built a suite of proprietary and complementary technologies that provides us with a comprehensive ability to design, create, modify and regulate gene programs and cellular systems. By virtue of the complementary nature of our technologies, we are able to provide our collaborators with a diverse array of capabilities, representing a one stop shop to potentially develop and commercialize new and differentiated products enabled by synthetic biology.

Our design-build-test-learn continuum allows us to design and build improved and more complex gene programs

We have developed a core expertise and technologies to ***design***, ***build*** and ***test*** complex gene programs, as well as technologies to isolate cells that best express the desired biological output. We have also developed an extensive bioinformatic software platform that combines information technology with advanced statistical analysis for DNA design and genetic engineering, enabling us to continually ***learn*** and create optimal conditions for our gene programs. Our approach allows us to build improved and more complex gene programs.

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We believe we are a leader in synthetic biology

We believe we are the first company focused exclusively on applying synthetic biology across a broad spectrum of end markets and have been working in the field since 1998. Over the last 16 years, we have accumulated extensive knowledge and experience in the design, modification and regulation of gene programs. We believe all of these factors, coupled with our suite of proprietary and complementary technologies, provide us with a first-mover advantage in synthetic biology.

We serve large and diverse end markets with high built-in demand

A vast number of products consumed globally are or can be produced using biologically based processes. Natural resources are becoming more scarce as demand exceeds supply creating unmet needs for improvements in development and manufacturing. As a result, the need for complex biologically engineered molecules such as those enabled by our synthetic biology technologies is large and spans multiple industries, including healthcare, food, energy and environmental sciences. Each of these markets faces unique challenges, however all have unmet needs for improvements in product development and manufacturing that can result in savings of both cost and time as compared to traditional means of industrial design and production. Because synthetic biology has the potential to deliver against these unmet needs, we believe that significant demand already exists for improved products enabled by synthetic biology. Additionally, there are markets utilizing traditional industrial processes that have failed to recognize the significant improvement in performance that could be achieved using synthetic biology.

We have a scalable ECC business model that allows us to leverage the broad potential of synthetic biology

We believe our ECC business model is a capital efficient and rapid way for us to participate in a more diversified range of product opportunities and industrial end markets than would otherwise be possible, including healthcare food, energy and environmental sciences. Our collaborators are primarily responsible for providing market and product development expertise, as well as sales, marketing and regulatory capabilities. Generally, our collaborators compensate us through technology access fees, royalties, milestones and reimbursements of certain costs. Our ECC business model allows us to participate in the potential upside from products that are enabled by our technologies across an extensive range of industries, without the need for us to invest considerable resources in bringing individual programs to market. Moreover, we believe that we will increasingly engage in ECCs in new fields at an accelerating pace with well-recognized collaborators.

We have experienced management and employees

Our management team, including our Chief Executive Officer, Randal J. Kirk, and our Chief Operating Officer, Krish Krishnan, consists of executives with a track record of success in building and managing research and development-driven companies, including New River Pharmaceuticals Inc., which was sold in 2007 to Shire plc for $2.6 billion. Our Chief Science Officer, Thomas D. Reed, was responsible for the initial conception and creation of our UltraVector technology platform. As of December 31, 2013 we had 149 employees primarily engaged in research and development, 63 of whom hold advanced degrees in engineering and biology or other sciences, including either a Ph.D., M.D. or D.V.M.

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Our suite of proprietary and complementary technologies

We apply the potential of synthetic biology through our suite of proprietary and complementary technologies that combine the principles of precision engineering, statistical modeling, automation and production at an industrial scale. This enables us to engineer precise and complex gene programs across many cell types rapidly and inexpensively. Our technologies include the following:

The UltraVector gene design and fabrication platform

Biological processes have the potential to be designed or redesigned for improved performance for a given application. One of the main challenges is to engineer and introduce the appropriate genetic parts that will yield a product with the desired outcome, such as enhanced biological function, decreased cost of goods or therapeutic effect. This has traditionally been done via a trial and error approach. However, in order to quickly optimize a product it is often necessary to explore multiple variables simultaneously to efficiently sample a broad experimental space. Doing so requires several components, including a robust DNA construction platform capable of constructing large targeted libraries of DNA designs with the appropriate complexity and scale, a powerful set of statistical tools to guide efficient sampling of a large biological sample space, high-throughput screening capacity matched to library requirements, and a suite of statistical tools to enable recognition and then recombination of improved performers.

Our gene program design platform, which we refer to as UltraVector, is an integrated suite of tools comprising advanced DNA construction technology and components, cellular and protein engineering tools, computational models and statistical methods which facilitate the rapid ***design***, ***build*** and ***testing*** of complex systems. The UltraVector platform allows us to translate complex gene programs into standard components that can be designed, manufactured and tested in a robust, automated format. This technology enables us to engineer at the cellular level from biological sources.

UltraVector DNA ***design*** is computer-automated and utilizes a proprietary set of defined construction rules to rapidly assemble components that are stored in our DNA library. These rules are derived from UltraVector s object-oriented DNA programming language that enables the hierarchical assembly of DNA parts, which can be a single base pair or thousands of base pairs in length. This allows us to rapidly assemble gene programs from defined and controlled DNA components imparting a desired biological outcome.

Following the design of the DNA vector, the UltraVector-driven ***build*** phase is performed via a proprietary modular assembly platform. Importantly, the underlying algorithm is designed to determine the best approach to efficiently assemble DNA, regardless of complexity or scale. By accommodating multigenic complexity and industrial scale production, we provide our collaborators with multiple options for efficiently optimizing DNA-based functions.

In addition to the growing number of gene components in our UltraVector library, we are continually designing and creating enzymatic and regulatory components that provide more precise control over genome integration and gene regulation. For example, our RheoSwitch Therapeutic System is a three-component transcriptional regulator that provides inducible gene expression. The RheoSwitch Therapeutic System provides the ability to not only express proteins/enzymes of interest, but also the ability to control the level and timing of expression to achieve a biological outcome. Both *in vivo*, which means within a whole living organism, and *ex vivo*,

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which means in a test tube or petri dish, applications have demonstrated highly controllable expression when the RheoSwitch Therapeutic System is incorporated into UltraVector-designed vectors. Other ongoing programs include our Attsite recombinases, which mediate predictable gene exchange into host cells thereby eliminating many of the difficulties seen with traditional gene insertion. Many traditional gene insertion techniques are difficult to perform because of a low and/or random insertion of the desired genetic code due to the lack of specificity for the recognition site related to the gene insertion enzyme resulting in unpredictable outcomes, such as, but not limited to, poor expression, loss of viability of the host organism or no expression of

the desired molecule. AttSite recombinases provide specific attachment sites for insertion of the desired genetic code through highly specific recognition regions and corresponding enzymes permitting many specific gene transfers in a reliable and repeatable fashion.

Cell systems informatics

Cell systems informatics permits faster ***design*** as well as efficient ***testing*** and ***learning*** about new gene targets or product pathways. Our proprietary bioinformatics software and database systems for mapping cellular pathways when combined with our genome-scale modeling and experimental data, including, for example, gene expression profiling and protein engineering, enable us to optimize selection and development of gene programs and cellular systems for our collaborators.

Our computational modeling and simulation platform enables the development of predictive computer models of organisms, from microbes to humans. This platform ***builds*** virtual cells from their basic molecular components, and can simulate the activity of the cell s complete reaction network, serving as an advanced biological knowledge management system with proven predictive capabilities. Reconstructed models can be used as the basis for computer simulations of the biological systems providing a mechanism for high-throughput ***testing***. The capabilities of these systems can be used to predict the outcomes of adaptive evolution, identify undiscovered pathways or reactions in the network based on necessary biomass components, test the effect of adding and/or eliminating genes or reactions to the network, design metabolic networks to support and optimize the production of a specific metabolite or protein and examine conditions consistent with disease and healthy states. Our computational modeling infrastructure allows scientists to rapidly examine a large experimental space *in silico*, which means performed via computer simulation, and then focus on the most promising conditions to be validated experimentally. Furthermore, this platform allows us to bridge experimental and computational research efforts by enabling models to be refined and improved as more data for an organism becomes available, thereby creating a highly effective method of rapid ***learning*** from the results of our research and development efforts.

Our bioinformatics platform is also central to our protein engineering expertise, which focuses on designing proteins with enhanced stability, solubility and post-translational modifications. We are also working to develop novel enzyme inhibitors and fusion proteins for a variety of applications in human and animal therapeutics. Our protein engineering may utilize one or more of the following aspects of our technologies to obtain novel catalysis activities our proprietary component library, the generation of component variants sequence, evolutionary analysis and structure-based sequence alignment, computer-aided drug discovery, *de novo*, or newly synthesized or generated, and comparative protein modeling, molecular dynamics simulation and free energy analysis, antibody design and humanization, antigenicity prediction, protein pharmacokinetics optimization, and/or *in silico* support of enzyme engineering and

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quantitative structure-function relationships with machine learning algorithms to optimize, facilitate and prioritize protein variant libraries for the advancement of our collaborators.

LEAP cell identification and selection

Our proprietary Laser-Enabled Analysis and Processing technology, or LEAP, is an instrument that merges semiconductor manufacturing technologies for cell processing applications to provide high levels of control and scale to cell purification and stem cell culture management. Capable of

operating at the single cell level by utilizing a wide range of image-based assays to characterize cell populations, the LEAP platform can identify and purify cells of interest from large libraries of cells created by our UltraVector and bioinformatics technologies using a laser-based purification process, thereby providing a mechanism of ***testing*** the degree of protein expression in genetically modified cells as well as rapid means to ***learn*** from the genetic building process. Combining the flexibility of image-based selection with the precision of laser purification, LEAP provides a platform to identify and purify high value cells.

Coupled with our UltraVector platform capability to rapidly generate large libraries of vector variants, the LEAP instrument provides a platform to identify and ***test*** the individual UltraVector-transfected cell expressing the protein of interest at optimal levels. The rapid cycle time of the linked processes enables the creation of complex, synthetic biology solutions in an iterative, variation/selection fashion, applying an evolutionary approach, but at a much accelerated time scale, thereby significantly enhancing our ability to ***learn*** about the genetic vectors we create. Applied to cell line generation, a core step in the generation of biomanufacturing cell lines for the production of therapeutic proteins such as antibodies, LEAP generates more highly purified cell lines of higher expressing cells, with greater productivity and in less time than conventional approaches can provide. This leads to cost and time savings both at the research and development stage and for cost of goods of manufactured products.

A unique feature of the LEAP platform is its ability to purify cells while they remain attached to the plate surface where they are grown. Many cell types, including many stem cells, do not maintain cell health and viability when processed with conventional, flow-based purification instrumentation. LEAP allows these cells to be efficiently processed and purified, while maintaining high viability. Applied to stem cells, LEAP enables the scale up and automation of stem cell processing that has historically been largely manual, providing a solution for scale-up.

mAbLogix antibody discovery

Our proprietary mAbLogix antibody discovery platform, or mAbLogix platform, enables production of B-cell libraries for discovery of antibodies. An antibody, also known as an immunoglobulin, is a protein produced in response to and counteracting a specific antigen, or marker, on cells and infectious agents, such as virus and bacteria, that identify them as foreign or non-self. Monoclonal antibodies, or mAbs, have become an important therapeutic that can be used in a number of ways including anti-infectives and oncology indications. The mAbLogix platform permits antigen targeting using fully human monoclonal and polyclonal antibodies.

Our mAbLogix antibody discovery process is comprised of two major activities: the ***build*** of human B-cell libraries expressing a large number of unique antibodies; and the ***testing*** of these libraries based on an analysis of B-cells that positively express antibodies in response to a specifically chosen antigen. Our proprietary discovery process is differentiated by the large size of

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human B-cell libraries generated and by the rapid, cell-based screening process. Together these capabilities allow us to quickly explore the entire human antibody repertoire and generate fully human mAbs against diverse antigens.

Utilization of complementary synthetic biology technologies to facilitate the creation of unique biological products

In order to create a highly functional biological system, we recognize the complexity of cellular processes and the necessity to create an optimized gene program in conditions reflective of the natural environment to allow for the creation of the optimal biological product. This requires a

rigorous understanding of cell signaling pathways as well as the interactions that influence the expression of protein. This knowledge is captured in our advanced bioinformatics systems, which uses statistical modeling and other analytic frameworks to determine the most efficient pathways for an intended biochemical result. Our bioinformatics platform also plays a critical role in our research and development as this library of information allows us to explore new targets of potential interest to our current or future collaborators.

In addition to creating the optimized gene program via the most efficient cell signaling pathway and in the relevant cellular environments, we have a growing library of DNA components that facilitate quantitative dose-proportionate control over the amount and timing of the target protein generated, thereby providing another mechanism to closely control activity of the newly constructed gene program.

Our LEAP technology facilitates the automated identification of an individual cell with the highest levels of expression, quality and potency from a population of over 100,000 cells.

Traditional cloning techniques are manual and only allow the generation of a few hundred clones while still being subject to human error. Following LEAP s identification of the cell of interest, we clone the cell, thereby generating millions of cells that produce high concentrations of the biological molecule of interest.

Our mAbLogix platform complements UltraVector with a library of human antibodies that exceeds 500 million. By immortalizing human tonsils which are comprised of lymphatic tissue containing B-cells, our mAbLogix platform creates a B-cell library that can generate antibodies against an almost infinite number of new antigens.

Antigens of interest could include cancer cells, bacteria/infective organisms or proteins that require inhibition, such as oncogenes. Following exposure of the antigen to the immortalized B-cell library, we are able to identify the B-cell that contains the reactive antibody. This antibody can then be isolated via LEAP, sequenced, manipulated, regulated and reconstructed using the UltraVector system.

Application of our proprietary and complementary technologies

The following programs illustrate several areas in which we are presently utilizing one or more of our suite of proprietary and complementary technologies in an effort to identify improved or novel biologically based products. Each of these represent an early stage research effort that we believe could be incorporated into collaborations and result in the development and commercialization of valuable products.

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Trait program

To date, biotechnology has made improvements in yield in food crops. These improvements have often been obtained with single gene events that enhance yield through herbicide and disease resistance. We believe that future improvements, and potentially even more dramatic improvements, in yield will be obtained through a more complex set of gene programs, or multigenic events. Specific product benefits that could drive yield through multigenic events, or optimized single event gene programs, are plant stress tolerances, such as drought and temperature, tolerance, and enhanced water and nitrogen utilization efficiency. Through our current research programs in Arabidopsis, a model plant commonly used for studying plant biology, we have demonstrated evidence of gene programs that enhance the growth of plants exposed to experimental drought or temperature stress.

RTS-controlled miRNA

MicroRNA, or miRNA, represents a class of bioactive RNA that can affect gene transcription and translation. Recent studies have shown that miRNA expression levels can be regulated in healthy and diseased tissues. Regulating endogenous miRNA expression levels, however, may require very tight control over the timing and amount of miRNA, or anti-miRNAs directed against mis-expressed miRNAs, produced in a cell because numerous miRNA species are highly potent and too much expression can be deleterious. Additionally, over-expression of miRNAs can lead to an anti-viral response, which can counteract the effects of a desired miRNA s expression or sometimes lead to cell death. We are using our library of DNA and RNA genetic modules, as well as our RheoSwitch Therapeutic System®, to develop optimized gene programs designed to control the expression of miRNAs.

UltraCART

Recent clinical trials performed by diverse academic institutions have demonstrated the clinical efficacy of genetically modified autologous T Cell Chimeric Antigen Receptor (CAR)-based therapies. While we believe the CAR-T Cell therapeutic paradigm presents great potential, its fulsome application may be limited due to off-target toxicities, varying efficacy against different tumor types, and costly manufacturing protocols. We are seeking to solve these challenges by developing integrated biological systems that include, but are not limited to: improved *ex vivo* expansion of autologous T Cells, controlled proliferation and/or persistence of CARTs *in vivo*, reduced off-target toxicities, expanded utility for treating solid tumors and coordinating CART function with synergistic therapeutic modalities.

Our markets

Synthetic biology has applicability across many diverse end markets. Our goal is to be a leader in the application of synthetic biology for products currently utilizing biologically based processes, and a leader in the replacement of conventional processes and products with biologically based substitutes. Through the application of our suite of proprietary and complementary technologies, we believe we can create optimized biological processes and create substitutes for traditional industrial techniques, leading to improved products that are developed and manufactured faster and more cost-effectively.

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Healthcare

It is estimated that the global human pharmaceuticals market is approximately $900 billion and that biological therapeutics represent approximately $150 billion of this market. Additionally, the market for animal health therapeutics is currently estimated to be valued at more than $20 billion globally. The aging population in developed markets, and the population growth and increasing middle class in emerging markets, suggest that there will be a steadily increasing utilization of therapeutics. However, the global biopharmaceutical industry continues to face challenges in cost-effectively developing and producing new therapeutics. These demographic trends, as well as food production resource constraints, suggest similar trends in the animal health medicines and vaccines market. In this market, we are focused on:

Therapeutics. Both in human health and animal health, synthetic biology has the potential to enable the development of highly complex biological molecules as well as the ability to regulate complex biological processes, with advantages as compared to traditional therapeutics, both *in vivo* and *ex vivo*. It may be possible, for example, to create highly targeted precision therapeutics with few off-target or adverse effects.

Bioproduction. Synthetic biology allows new biologically based manufacturing techniques that have the potential to significantly lower the cost of goods for highly complex biological molecules, including both existing and novel biopharmaceuticals as well as small molecules.

Diagnostics. By utilizing the sensing and reporting capabilities of cells and specific cellular mechanisms, it may be possible to create highly sensitive diagnostics, to report on a patient s health and provide advance warning of changes in the state of the patient s health.

Food

The Food and Agriculture Organization of the United Nations, or the FAO, predicts that by 2050 the world s population will reach 9.1 billion, 2 billion more than today. To feed a larger, more urban and wealthier population, food production must increase by 70 percent. Annual cereal production will need to rise to about 3 billion tons from 2.1 billion today and annual meat production will need to rise to 470 million tons from today s 270 million tons.

In this market, we are focused on:

Food animals. Within the United States, beef, pork and chicken sales are in excess of $125 billion per year. Dairy sales provide an additional $28 billion in annual sales of animal byproduct. The global market for meat is approximately 5 times larger than the US market, and the global dairy market is 10 times the size of the US market. Traditional methods of genetic selection in animals is an inefficient and slow process, requiring many generations in order to evolve and select for desired traits. However, selective breeding techniques have resulted in increased size of cattle and hogs, increased milk production in cows and other valuable attributes. By applying our suite of technologies, we believe we can more rapidly develop livestock with commercially valuable attributes such as enhanced nutritional content, resistance to disease and increased growth efficiency.

Agriculture. The FAO estimates that 90 percent of the production increases necessary to feed the future population will come from increases in crop yield and cropping intensity through enhanced traits. Current methods of crop yield and productivity enhancement are no longer keeping pace with demand. Genetically modified agricultural plants are already grown on

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more than 170 million hectares around the world and are worth an estimated $65 billion dollars. We believe we have the potential to create improved crops by simultaneously incorporating multigenic traits into plants that are designed to enhance the efficiency of water, carbon and nitrogen utilization. We also believe that we can use our gene expression and gene regulation technologies to provide highly complex traits related to enhanced nutritional content, product quality and disease resistance.

Energy and chemicals

A significant challenge of industrial markets, such as the energy and the petrochemical industries, is their large scale, which can require hundreds of millions and even billions of pounds per year of production, and corresponding price sensitivity. For these industries, the production of any product must allow for scalability and end-to-end economic viability. It has long been recognized that biology offers promising alternatives to energy production as well as alternatives to resource intensive synthetic chemistry. For more than a decade, efforts have been made to produce fuels from bacteria, yeast and other organisms with little success. We believe that the many and complex changes to any organism s DNA that must be made to result in significant energy production cannot be effected without the use of an engineered approach to synthetic biology.

Our UltraVector platform, by enabling high through-put gene program design and construction, allows us to identify the relevant pathways within an organism for the production of complex biological molecules, design a variety of alternative solutions to their expression, and rapidly build and evaluate solution sets to select the most promising alternatives. We believe our novel biological solutions can increase yield and productivity, which are critical in the development of alternative energy and the production of chemicals.

In this market, we are focused on:

Energy. The development of engineered microbes for biological conversion of natural gas to alcohols as drop-in fuels can be accomplished with synthetic biology. We have already achieved as proof of concept the conversion by engineered bacteria of methane to isobutanol, which is an alternative alcohol-based fuel.

Chemicals. The chemical industry is highly dependent on crude petroleum as a feedstock. Increased demand for petroleum and continued declines in new reserves, as well as declines in the productivity of existing and proven reserves, has led to increased costs for consumers and reduced margins for many manufacturers. Economically viable alternatives to carbon feed stocks are critical to the future and sustainability of the chemical industry.

Environmental sciences

This sector embodies a diverse set of applications that we believe can be enhanced and expanded with the use of our suite of proprietary and complementary technologies. With the goal of entering into ECCs, we plan to focus our development activities on platform tailoring and selective third party enabling technology collaboration in the following areas:

Biosensors. The biosensor global market is forecasted to exceed $12 billion by 2016 and opportunities exist to capture a portion of this market through design and construction of unique biosensors that leverage our suite of proprietary and complementary technologies.

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Bioremediation. The global market for microbial and associated bioremediation products is forecasted to reach over $1 billion by 2016. Industrial sources of soil and groundwater contamination present major environmental, policy and health issues because of the adverse effects of contaminants on humans and ecosystems. Bioremediation, which we believe our technologies have the potential to enable, can provide an environmentally friendly, socially acceptable, effective and economically viable solution.

Specialty Processes. We believe our suite of proprietary and complementary technologies has the potential to be used to introduce effective solutions for applications such as activated microbial filtration, waterborne pathogen elimination, and de-nitrification of waste and surface water.

Our business model

We believe that because synthetic biology has applicability across many diverse end markets, we cannot take full advantage of synthetic biology with internal development programs alone. To address this, we have devised our business model to allow us to focus on our core expertise in synthetic biology while bringing many different commercial products to market via collaborations in a broad range of industries or end markets, thus minimizing and leveraging the use of our own capital.

Our business model is built around the formation of ECCs. An ECC is an agreement with a collaborator to develop products based on our technologies in a specifically defined field. We seek collaborators that have expertise within a specific industry segment and the commitment to provide resources for the development and commercialization of products within that industry segment. In our ECCs, we provide expertise in the engineering of gene programs and cellular systems, and our collaborators are responsible for providing market and product development expertise, as well as regulatory, sales and marketing capabilities.

This business model allows us to leverage our capabilities and capital across numerous product development programs and a broader landscape of end markets than we would be capable of addressing on our own. Our ECC business model also allows us to participate in the potential upside from products that are enabled by our technologies across an extensive range of industries, without the need for us to invest considerable resources in bringing individual products to market. Additionally, the flexibility of the business model allows us to collaborate with a range of counterparts, from small innovative companies to global multinational conglomerates.

In certain strategic circumstances, we may enter into a joint venture with an ECC collaborator. In that event, we will enter into an ECC with a joint venture entity and may contribute access to our technology, cash or both into the joint venture which we will jointly control with our ECC collaborator. Pursuant to a joint venture agreement, we may be required to contribute additional capital to the joint venture, and we may be able to receive a higher financial return than we would normally receive from an ECC to the extent that we and our ECC collaborator are successful in developing one or more products. We recently executed the first two such joint venture agreements: one with a subsidiary of Sun Pharmaceutical Industries Ltd., an international specialty pharmaceutical company focused on chronic diseases, and one with OvaScience, Inc., a life sciences company focused on the discovery, development and commercialization of new treatments for infertility. Alternatively, where a collaborator wishes to work with us to develop an early-stage program, we may execute a research collaboration pursuant to which we receive

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reimbursement for our development costs but the exclusive license rights, and related access fees, are deferred until completion of an initial research program.

In 2011, we entered into our first collaboration and have steadily increased the number over the past three years, entering into new agreements and expanding existing ECCs. To date, we have entered into 21 such agreements and expansions with 17 different counterparties, of which 19 remain active. We have 18 active ECCs, including three expansions, and one research collaboration that we anticipate could, if successful, become an ECC. Under the ECCs, we are developing products in the fields of healthcare and food. In healthcare, our ECCs include programs in oncology, anti-infectives, antibiotics and tissue repair. In food, we are working to increase the productivity and nutritional value of salmon and other fish. We are also working to establish ECCs in the areas of energy and environmental sciences.

Our ECCs

Our ECCs typically share a number of key features. Each ECC is an agreement with a collaborator to develop products based on our technologies in one or more specifically defined fields. These fields may be narrowly defined (representing, for example, a specific therapeutic approach for a single indication) or may be broad (representing, for example, an entire class of related products). In each case, we and the collaborator precisely define the field based on factors such as the expertise of the collaborator, the relative markets for the prospective products, the collaborator s resources available to commit to the ECC and our expectations as to other prospective ECCs in related areas. Regardless of the size of the field, under each ECC we grant the

collaborator exclusive rights to our services and our suite of technologies to develop and commercialize products within the field. So long as our collaboration continues, the parties agree that each will not, alone or with another party, develop and commercialize products within the field of the ECC. The licensed technologies include those that we control at the time of the execution of the ECC as well as any technologies that we develop or acquire throughout the duration of the ECC.

We realize three general categories of revenue under our ECCs. First, for providing access to our technologies, we generally receive technology access fees either in cash or as an equity interest in the collaborator. These payments may be upfront or upon the achievement of developmental milestones or both. Second, through the duration of the ECC, we receive reimbursements from our collaborator to cover our time and material costs expended performing our obligations under the ECC. Reimbursable expenses may be for the time of our own personnel, materials we produce at our facilities or pass-through costs for the time and materials of third-party contractors. Third, we share in the potential future revenues, through royalties or other similar arrangements, derived from the commercialization of the product(s) that are enabled by our technologies.

Each of our ECCs is designed to continue in perpetuity unless terminated. Given the relatively long development cycle for many of the products that could be enabled by our technologies, as well as our belief that we can enable the continual improvement of product offerings, it is our expectation that our ECCs will continue for many years and result in the development of multiple products. Each of our collaborators, however, retains the right to terminate the ECC for any reason by providing us written notice a certain period of time prior to such termination, generally ninety days. The ECC is also terminable by either party upon the other party s breach of material provisions of the ECC. The failure of our collaborator to exercise diligent efforts to develop products within the field of the ECC constitutes such a breach.

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In the event one of our ECCs terminates we are entitled to immediately pursue another collaboration within the field of the terminated ECC. Moreover, technologies and product candidates in a relatively early stage of development revert to us, along with data, materials and the rights to all applicable regulatory filings related to the reverted products, enabling us to develop those products ourselves or incorporate them into a future collaboration. Product candidates that are at a more advanced stage of development, such as those already generating revenue or being considered for approval by the applicable regulatory body, for example, at the time of the ECC s termination are retained by the former collaborator. The collaborator has the right to develop and commercialize such retained products although we are entitled to the royalties or other compensation to which we would be entitled as if the ECC were still in effect. Upon termination, we retain any technology access fees or other payments to which we are entitled through the date of termination.

In our ECCs, we retain rights to our existing intellectual property and generally any intellectual property developed using, or otherwise incorporating, our technologies. In addition, we are generally responsible for controlling the prosecution and enforcement of this intellectual property with the exception of the enforcement of patents directed solely and specifically to products developed within the field of each ECC.

Each of our ECCs requires the collaborator to indemnify us for all liability related to products produced pursuant to the ECC and to obtain insurance coverage related to product liability.

ZIOPHARM Oncology

Effective January 6, 2011, we entered into an ECC with ZIOPHARM Oncology, Inc. (NASDAQ: ZIOP), or ZIOPHARM, a publicly traded small molecule late-stage oncology drug development company, to develop and commercialize therapeutics in the field of cancer treatment in humans. The lead product candidates of this ECC include DC-IL-12 and Ad-IL-12 for the treatment of melanoma and breast cancer. DC-IL-12 has completed a Phase I human clinical trial to establish the drug s safety. Ad-IL-12 is currently in multiple Phase II human clinical studies.

Both of these programs are focused on the regulatable expression of Interleukin-12 (IL-12). IL-12 is a naturally occurring anticancer cytokine central to the initiation and regulation of cellular anti-cancer immune responses. Until now, the use of IL-12 as a cancer therapeutic has been limited due to significant toxicities observed with its systemic use at doses high enough to exhibit a therapeutic effect.

Both of the IL-12 programs of this ECC deliver genetic vectors coding for the IL-12 gene directly to tumors. DC-IL-12 uses a patient s own dendritic cells as the delivery vehicle, whereas Ad-IL-12 uses adenovirus. Once the vector is delivered intratumorally, it is controlled by Intrexon s proprietary on/off biologic switch called the RheoSwitch Therapeutic System, or RTS. RTS maintains the gene program in an inactive state within a cell, until such a time as the patient takes a pill containing an orally available small molecule ligand. In the presence of the ligand, which is otherwise biologically inert, RTS is activated allowing expression of IL-12 at a specified therapeutic level and for a predetermined duration. RTS thereby regulates IL-12 expression to achieve a targeted clinically active level of IL-12 at the tumor while limiting broader systemic exposure and toxicities from the cytokine.

This ECC is also investigating the use of IL-12 in combination therapy with selected immunomodulators for solid tumors. This Multi-Inducible Cancer Immunomodulator, or MICI,

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program has multiple ongoing projects designed to identify proper cytokine candidates and develop vectors for cancer therapeutic applications. Three programs have been selected for development. Each is based on our multigenic expression platform, where two or more therapeutic proteins are expressed from a single DNA vector. Recent results from the MICI program have demonstrated successful expression of multigenic therapeutic proteins. Under both the DC-IL-12 and Ad-IL-12 programs, we are responsible for manufacturing the drug product and small molecule activator ligand. ZIOPHARM reimburses us for these manufacturing costs.

Pursuant to the ECC, ZIOPHARM received a license to our technologies within the field of cancer treatment in humans as defined more specifically in the ECC. We received 3,636,926 shares of ZIOPHARM s common stock valued at $17.5 million as an upfront technology access fee. On October 24, 2012 upon the dosing of the first patient of a Phase II clinical trial, we received 3,636,926 shares of ZIOPHARM s common stock valued at $18.3 million as milestone consideration, which is the sole milestone under this ECC. Subject to certain expense allocations, ZIOPHARM will pay us 50 percent of the quarterly net profits derived from the sale of products developed under the ECC.

Upon execution of this ECC, we purchased 2,426,235 shares of ZIOPHARM common stock with a value of $11.6 million, and we agreed to purchase up to $50.0 million of ZIOPHARM common stock in conjunction with securities offerings that may be conducted by ZIOPHARM in the future, subject to certain conditions and limitations. To date we have purchased approximately $31.0 million of ZIOPHARM common stock in such securities offerings, and our remaining obligation on this purchase commitment is approximately $19.0 million.

Elanco

Effective November 28, 2011, we entered into an ECC with Elanco, the animal health division of Eli Lilly and Company (NYSE: LLY). Elanco is a world leader in developing products and services that enhance animal health, wellness and performance. The lead programs of this ECC are currently in the research phase. These programs are targeting certain chronic diseases associated with aging in companion animals as well as the prevention of certain infectious diseases in pigs. Elanco has exclusive rights to access all of our suite of technologies to develop and commercialize products within the fields covered by the ECC.

Pursuant to the ECC, we received an upfront technology access fee in cash and are entitled to additional amounts up to an aggregate of $2.25 million per product candidate based on the occurrence of separate performance, regulatory and sales-based milestones. Elanco will pay us royalties in the mid- to upper-single digits and lower- double digits based on net sales of products developed under the ECC. Elanco holds a right of first refusal to participate in the development of any product outside of the field intended to treat one of the target indications covered by the ECC.

Fibrocell

Effective October 5, 2012, we entered into an ECC with Fibrocell Science, Inc. (NYSE MKT: FCSC), or Fibrocell, a publicly traded biotechnology company commercializing fibroblasts for therapeutic applications. The lead therapeutic program of this ECC is currently in the research phase for the treatment of recessive dystrophic epidermolysis bullosa, or RDEB, a rare, genetically based blistering disorder. RDEB is an autosomal recessive disorder characterized by the loss of collagen

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type VII, an important protein component of the anchoring fibers that connect the dermis to the epidermis. Our proposed treatment for this disease will provide collagen VII produced by autologous, gene-modified fibroblasts.

We are also working with Fibrocell to improve the process efficiency and cost of goods related to the manufacture of LAVIV™, Fibrocell s autologous cellular product indicated for improvement of the appearance of moderate to severe nasolabial fold wrinkles in adults.

Pursuant to the ECC, Fibrocell received a license to our technologies to develop and commercialize genetically modified and non-genetically modified autologous fibroblasts and autologous dermal cells in the United States for both aesthetic and therapeutic indications. We received a technology access fee of 1,317,520 shares of Fibrocell s common stock valued at $7.6 million as upfront consideration. The number of shares received reflects a 1-for-25 reverse stock split of Fibrocell s common stock effective April 30, 2013. On a quarterly basis, Fibrocell will pay us royalties of 7 percent of net sales up to $25.0 million and 14 percent of net sales above $25.0 million on products developed from the ECC. If Fibrocell uses our technologies to improve the production of LAVIV or new Fibrocell products not developed under the ECC, Fibrocell will pay us a quarterly royalty equal to 33 percent of the cost of goods sold savings generated by the improvement.

Effective June 28, 2013, we entered into an amendment to our ECC with Fibrocell. The amendment expands the ECC to include potential treatments based on engineered autologous fibroblast cells for the localized treatment of autoimmune and inflammatory disorders including morphea (localized scleroderma), cutaneous eosinophilias and moderate to severe psoriasis. Under the terms of the amendment, we received shares of Fibrocell s common stock valued at $7.5 million as a supplemental technology access fee.

On October 1, 2013, we acquired an aggregate amount of $10.0 million of Fibrocell common stock at a price of $4.10 per share.

Effective January 10, 2014, we entered into a second amendment to our ECC with Fibrocell. The amendment expands the ECC to include potential treatments for Ehlers-Danlos syndrome hypermobility type (EDS-HT), a rare genetic disorder resulting in weakened connective tissue. Under the terms of the amendment, we received shares of Fibrocell s common stock valued at approximately $5.0 million as a supplemental technology access fee.

Oragenics

Effective June 5, 2012, we entered into an ECC with Oragenics, Inc. (NYSE MKT: OGEN), or Oragenics, a publicly traded company in the field of oral care probiotics and a developer of therapeutic products including novel antibiotics. The lead therapeutic program of this ECC is currently in the research phase. The objective of this ECC is to develop and commercialize lantibiotics, a novel class of broad-spectrum antibiotics, for the treatment of infectious diseases, including methicillin-resistant *Staphylococcus aureus*, vancomycin-resistant *Enterococcus faecalis*, *Clostridium difficile*, Mycobacterium tuberculosis and anthrax, in humans and companion animals.

Pursuant to the ECC, Oragenics received a license to our technologies within the field of lantibiotics for the treatment of infectious diseases in humans and companion animals. We received a technology access fee of 4,392,425 shares of Oragenics common stock valued at

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$6.6 million as upfront consideration. Upon the achievement of certain milestones, we are entitled to receive additional consideration equal, in aggregate, to 10 percent of Oragenics outstanding shares, excluding shares issuable upon the conversion of certain derivative securities. At Oragenics option, such consideration can be paid in stock or cash, in which case such payment shall be based on the fair market value of the shares otherwise issuable. Oragenics will pay us 25 percent of the quarterly profits derived from the sale of products developed from the ECC on a product-by-product basis.

On September 30, 2013, we entered into a second ECC with Oragenics through which Oragenics may develop and commercialize probiotics, specifically the direct administration to humans of genetically modified probiotics for the treatment of diseases of the oral cavity, throat, sinus and esophagus, including, but not limited to, aphthous stomatitis and Behcet s disease. Pursuant to the ECC, Oragenics received an exclusive worldwide license to our suite of technologies to develop and commercialize genetically modified probiotics for the direct administration to humans for the treatment of diseases of the oral cavity, throat, sinus and esophagus. Oragenics will pay us 10% of the net sales derived from the sale of products developed from the ECC. We may receive up to $17.0 million in aggregate milestone payments upon the achievement of certain events. Contemporaneously with the entry into the ECC, we also entered into a Stock Purchase and Issuance Agreement and a First Amendment to the Stock Purchase and Issuance Agreement, together, the SPIA, with Oragenics. Pursuant to the SPIA, (i) Oragenics issued us 1,348,000 shares of Oragenics common stock valued at $3.5 million in consideration for the execution and delivery of the ECC and (ii) Oragenics sold us 1,300,000 shares of Oragenics common stock at a price per share of $3.00 for gross proceeds of $3.9 million. Oragenics also issued a Convertible Promissory Note to us in the principal amount of $1,956,000 which is payable, at Oragenics option, in cash or shares of Oragenics common stock and which matures on December 31, 2013. The Convertible Promissory Note was converted to 698,241 shares of Oragenics common stock on December 18, 2013. The 2,046,241 shares of Oragenics common stock constitute the payment of the $5.5 million technology access fee paid to us under the ECC. On November 20, 2013, we acquired an aggregate amount of $2.8 million of Oragenics common stock at a price of $2.50 per share.

Synthetic Biologics

Effective August 6, 2012, we entered into an ECC with Synthetic Biologics, Inc. (NYSE MKT: SYN), or Synthetic Biologics. The lead therapeutic program of this ECC is currently in preclinical development.

Pursuant to the ECC, Synthetic Biologics received a license to our technologies to develop and commercialize a series of monoclonal antibody therapies for the treatment of certain infectious diseases defined in the ECC. Upon shareholder approval on October 5, 2012, we received 3,552,210 shares of Synthetic Biologics common stock valued at $7.8 million as an upfront technology access fee. We are entitled to additional consideration payable either in cash or common stock at the option of Synthetic Biologics upon the achievement of certain regulatory milestones for each product candidate developed under the ECC. Upon the filing by Synthetic Biologics of an investigational new drug application with the U.S. Food and Drug Administration, or FDA, we will receive cash or common stock at the option of Synthetic Biologics valued at $2.0 million. Upon the first to occur of either the first commercial sale of a product developed under the ECC or the granting of marketing approval of a product developed under the ECC, we will receive cash or common stock at the option of Synthetic Biologics valued at $3.0 million. The

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ECC initially targets three infectious diseases, and Synthetic Biologics may elect to target up to five more infectious diseases by paying us a field expansion fee of $2.0 million in either cash or common stock for each additional infectious disease selected. The lead therapeutic programs of this ECC are currently in preclinical development. They include the development of monoclonal antibody therapies for the treatment of pertussis and Acinetobacter infections. The pertussis program is focused on the development of a monoclonal antibody to treat pertussis infections, more commonly known as whooping cough, by targeting and neutralizing the pertussis toxin, in order to reduce the mortality rate in infants and potentially shorten the duration of chronic cough in afflicted adults. According to the World Health Organization, each year, B. pertussis infection causes an estimated 300,000 deaths worldwide, primarily among young, unvaccinated infants. The ECC is also working to develop a mAb therapy for the treatment of Acinetobacter infections. Many strains of Acinetobacter are multidrug-resistant and pose an increasing global threat to hospitalized patients, wounded military personnel and those affected by natural disasters. Based on its public filings, Synthetic Biologics believes that a treatment for Acinetobacter infections represents a billion dollar market opportunity.

On a quarterly basis, Synthetic Biologics will pay us tiered royalties as a percentage in the upper-single to lower-double digits of net sales of products developed under the ECC.

On December 17, 2013, we acquired an aggregate amount of $2.0 million of Synthetic Biologics common stock at a price per share of $1.00 per share.

Previously, in November 2011, we entered into an ECC with Synthetic Biologics to develop and commercialize a gene therapeutic product using RTS for the treatment of pulmonary arterial hypertension. In April 2013, we terminated the ECC for lack of support by Synthetic Biologics.

AquaBounty

AquaBounty Technologies, Inc. (AIM: ABTX), or AquaBounty, is a biotechnology company using biological sciences and molecular technology to enable the large-scale, efficient, and environmentally sustainable production of high quality finfish. Its lead product, AquAdvantage Salmon®, or AAS, is a new strain of salmon capable of reaching marketable size in around half the time of conventional salmon. By placing the salmon growth hormone under the control of an

alternative promoter (gene switch) from the ocean pout, an edible arctic fish, AquaBounty is able to provide a consistent level of salmon growth hormone which speeds growth throughout the early stages of the salmon s development. Although these fish do not reach a larger final size than conventional salmon, by accelerating growth in the early stages, AAS can reach a marketable size in around half the time. In the case of salmon, this can reduce farming time from approximately 28 to 36 months to approximately 18 months, depending on the desired marketable weight of the fish. The AAS was developed by AquaBounty without using any of our technologies.

On November 16, 2012, we acquired 47.56 percent of AquaBounty s common stock from two shareholders. On March 15, 2013, we acquired additional shares from AquaBounty in a private placement increasing our ownership to 53.82 percent. Also, on February 14, 2013, three individuals designated by us, including one of our employees, were appointed to AquaBounty s board of directors and we have the right to appoint a fourth director at AquaBounty s next shareholder meeting.

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Effective February 14, 2013, we entered into an ECC with AquaBounty. The objective of this ECC, which is in the research phase, is to develop and commercialize genetically modified finfish for human consumption that are more nutritious, have increased muscle mass, and grow quickly to maturity. Pursuant to the ECC, we will receive 16.7 percent of quarterly gross profits for each product.

AmpliPhi

Effective March 29, 2013, we entered into an ECC with AmpliPhi BioSciences Corp. (OTC US: APHB), or AmpliPhi, a developer of bacteriophage-based antibacterial therapies to treat drug resistant infections. The objective of this ECC is to develop and commercialize new bacteriophage-based therapies to target specific antibiotic resistant infections. The target indications of this ECC may include treatment of bacterial infections associated with acute and chronic wounds, the treatment of acute and chronic *P. aeruginosa* lung infections, and the treatment of infections of *C. difficile*. The lead therapeutic program of this ECC is currently in the research phase.

Pursuant to the ECC, we received 24,000,000 shares of common stock of AmpliPhi as an upfront technology access fee. We may receive up to $7.5 million in aggregate milestone payments for each product, payable either in cash or equity upon the achievement of certain events. We also are entitled to tiered royalties as a percentage in the upper-single digits of the net product sales of a product developed under the ECC.

Genopaver

Effective March 29, 2013, we entered into an ECC with Genopaver, LLC, or Genopaver, a limited liability company formed by affiliates of Third Security, LLC. Genopaver was formed for the express purpose of entering into the ECC and developing and commercializing products in the field of the fermentative production of alkaloids through genetically modified cell-lines and substrate feeds for use as active pharmaceutical ingredients or as commercially sold intermediates in the manufacture of active pharmaceutical ingredients. The first program under this ECC involves the microbial production of an active pharmaceutical ingredient used primarily in the manufacture of several commonly used pain killers. The purpose of our ECC with Genopaver is to develop a source of this valuable component at a commercially competitive cost. The initial program under this ECC is in the research phase.

Pursuant to the ECC, we received a $3.0 million cash payment as an upfront technology access fee. We are entitled to a royalty as a percentage in the lower-double digits on the gross profits of product sales from a product developed under the ECC.

Soligenix

Effective April 27, 2013, we entered into an ECC with Soligenix, Inc. (OTCQB: SNGX), or Soligenix, a clinical stage biopharmaceutical company focused on developing products to treat inflammatory diseases and biodefense countermeasures. The objective of this ECC is to develop and commercialize human monoclonal antibody therapies for the treatment of melioidosis. Melioidosis is caused by *B. pseudomallei*, a Gram-negative bacteria that is highly resistant to antibiotic treatment regimens. Melioidosis is endemic in Southeast Asia and Northern Australia. It is also considered a high-priority biodefense threat as defined in the 2012 Public Health

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Emergency Medical Countermeasures Enterprise Strategy established by the U.S. Department of Health and Human Services with the potential for widespread dissemination through aerosol. The lead therapeutic program of this ECC involves the development and commercialization of a human monoclonal antibody therapy for the treatment of meliodosis. Presently, work on this program under the ECC is in the research phase.

Pursuant to the ECC, we received 1,034,483 shares of common stock of Soligenix as an upfront technology access fee. We may receive up to $7.0 million in aggregate milestone payments for each product developed under the ECC payable either in cash or equity upon the achievement of certain events. We are also entitled to a royalty as a percentage in the upper-single to lower-double digits on the net sales generated from a product developed under the ECC.

Sun Pharmaceutical Industries

On September 30, 2013, we entered into an ECC with S & I Ophthalmic, LLC, or Sun JV, a joint venture between us and Caraco Pharmaceutical Laboratories, Ltd., or Sun Pharmaceutical Subsidiary, an indirect subsidiary of Sun Pharmaceutical Industries Ltd., an international specialty pharmaceutical company focused on chronic diseases.

Pursuant to the ECC, Sun JV received an exclusive worldwide license to our suite of technologies to research, develop and commercialize in humans the treatment of diseases specifically relating to, and manifesting locally in, the eye as well as certain systemic diseases having symptoms or complications that manifest in the eye via administration of genetically modified cells, DNA or viral vectors that, when delivered to humans, will cause *in-vivo* expression of one or more therapeutic proteins and/or bioactive RNA species. Subject to certain expense allocations, JV will pay us royalties with percentages ranging from mid-single digits and above of the net sales derived from the sale of products developed under the ECC.

Contemporaneously with the entry into the ECC, we also entered into a Limited Liability Company Agreement, or Sun LLC Agreement, with Sun Pharmaceutical Subsidiary and Sun JV which governs the affairs of Sun JV and the conduct of Sun JV s business. Pursuant to the Sun LLC Agreement, we, as well as Sun Pharmaceutical Subsidiary, made an initial capital contribution in exchange for a 50% membership interest in Sun JV. In cases in which the board of managers of Sun JV, or the Sun JV Board, determines that additional capital contributions are necessary in order for Sun JV to comply with its obligations under the ECC, we, as well as Sun Pharmaceutical Subsidiary, have committed to making additional capital contributions subject to certain

limitations. Each has the right, but not the obligation, to make additional capital contributions

above these limits when and if solicited by the Sun JV Board.

Beginning on the seventh anniversary of the effective date of the Sun LLC Agreement, and upon every second anniversary thereafter, we, as well as Sun Pharmaceutical Subsidiary, may make a cash offer to purchase all of the other s interest in Sun JV. Upon receipt of such an offer, the

other party must either agree to tender its interests at the offered price or submit a counteroffer at a price higher than the original offer. Such offer and counteroffer may continue until one party agrees to the other s price.

Sun JV shall be governed by the Sun JV Board which shall have four members. We, as well as Sun Pharmaceutical Subsidiary, have the initial right to appoint two members to the Sun JV Board. For so long as Sun Pharmaceutical Subsidiary and/or any of its affiliates is a member of Sun JV and holds a percentage interest in Sun JV that is at least equal to the percentage interest in Sun

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JV held by us and/or our affiliates, Sun Pharmaceutical Subsidiary will have the sole authority to select and appoint on behalf of Sun JV each of the representatives of Sun JV on the ECC committees, and one such appointee will be an Empowered Representative of Sun JV under the terms of the ECC with final authority to resolve certain ECC committee disputes.

BioPop

On October 1, 2013, we entered into an ECC with Biological & Popular Culture, Inc., or BioPop, pursuant to which BioPop received a worldwide, exclusive license to our technologies to develop and commercialize artwork, children s toys and novelty goods that are derived from living organisms or are enabled by synthetic biology. We are entitled to royalties in the mid-single digits as a percentage of the net product sales of a product developed under the ECC.

Contemporaneously with the entry into the ECC, we entered into a Common Stock Purchase Agreement with BioPop pursuant to which we acquired 4,163,265 shares of BioPop common stock for an aggregate purchase price of $1.3 million, which represents 51% of BioPop s outstanding common stock. Pursuant to the Common Stock Purchase Agreement, the members of Yonder LLC, or Yonder, a California limited liability company, contributed all assets and properties of Yonder to BioPop, and BioPop assumed all Yonder obligations and liabilities.

Agilis

On October 25, 2013, we entered into an ECC with Agilis Biotherapeutics, LLC, or Agilis, a synthetic biology-based company focused on rare diseases, pursuant to which Agilis received a worldwide, exclusive license to our technologies to develop and commercialize therapeutics for the treatment of Friedreich s ataxia, a degenerative neuro-muscular disorder through the administration of genetically modified cells, DNA or viral vectors. This ECC is currently in the research phase.

We received an upfront technology access fee of $2.5 million in cash. We may receive up to $13.0 million in aggregate milestone cash payments for each product, payable upon the achievement of certain events. We also are entitled to royalties in the lower-double digits as a percentage of the net product sales of a product developed under the ECC.

OvaScience

On December 18, 2013, we entered into an ECC with OvaScience, Inc., a life sciences company focused on the discovery, development and commercialization of new treatments for infertility.

The ECC was formed to use our synthetic biology technology platform to develop methodologies to accelerate the development of OvaScience s OvaTure™ technology platform, a next-generation approach to in vitro fertilization. As partial payment for access to our technology, OvaScience issued 273,224 shares of its common stock to us on December 18, 2013. OvaScience will pay $2,500,000 of the technology access fee on December 18, 2014

Additionally, OvaScience and we formed a joint venture entity named OvaXon, LLC, a Delaware limited liability company (OvaXon). OvaScience and we entered into a limited liability company agreement for OvaXon (the LLC Agreement) which establishes our rights and those of OvaScience with respect to OvaXon and provides for the management of OvaXon and its business. In connection with the execution of the LLC Agreement, OvaXon entered into a

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worldwide Exclusive Channel Collaboration Agreement with us to create new applications for improving human and animal health. OvaScience also licensed certain technology relating to egg precursor cells to OvaXon pursuant to a separate license agreement.

Johnson & Johnson

On December 22, 2013, we entered into a research and development collaboration with Johnson & Johnson Innovation and its affiliate, Johnson & Johnson Consumer & Personal Products Worldwide, a division of Johnson & Johnson Consumer Companies, Inc., to advance new skin and hair care products.

Competition

We believe that we are a leader in synthetic biology. We do not believe that we have any direct competitors who provide similar technologies which fully enable the commercialization of products developed using synthetic biology across a broad spectrum of biologically based industries. As a result, we believe our competition is more indirect and general in nature, and falls into three broad categories:

Synthetic biology service providers. There are companies that have competing technologies for individual pieces of our suite of complementary technologies. For example, there are companies that can synthesize DNA, and there are companies that can develop monoclonal antibodies. One portion of our proprietary technology related to DNA synthesis and assembly includes the ability to *de novo* synthesize DNA. We believe the following companies engage in the manufacture of DNA componentry: DNA 2.0, Inc., Blue Heron Biotech, LLC and Life Technologies Corporation. Another portion of our proprietary technology includes development of fully human monoclonal antibodies. Our technology utilizes advanced methods of stimulating antibody production in naïve human B-cells *in vitro* and specifically selecting those cells which produce antibodies that can bind a desired target, such as human toxins, tumor cells or microbial pathogens. We believe the following companies engage in the manufacture of human or human-like monoclonal antibodies: AbD SeroTec (a Bio-Rad Laboratories, Inc. company), Alexion Pharmaceuticals, Inc., XOMA Corporation, Genmab US, Inc., MorphoSys AG, NovImmune SA, Société Des Systèmes Biologiques, or BIOTEM, Adimab, LLC, ProMab Biotechnologies, Inc., Abpro, Inc., AIIM Therapeutics and Open Monoclonal Technology, Inc.

Industrial companies who may develop their own approach to synthetic biology. Rather than becoming a collaborator with us, potential collaborators may decide to invest time and capital to internally develop their own synthetic biology capabilities. For example, large biopharmaceutical companies, energy companies, and ag-bio companies may pursue a proprietary synthetic biology strategy.

Industrial companies who may develop competing products using other technologies. Products enabled by our synthetic biology will face competition in the market, including from products which have been developed using other industrial technologies. For example, large biopharmaceutical companies pursue other technologies for drug development, and large ag-bio companies pursue other technologies for the development of genetically modified crops.

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Intellectual property

As we advance technologies across multiple platforms and synthetic biology areas, correspondingly, we apply a multilayered approach for protecting intellectual property relating to the inventions we have developed internally as well as those we have acquired from third parties, such as by assignment or by in-license. We seek patent protection in the United States and in other countries for our inventions and discoveries, and we develop and protect our key know-how and trade secrets relating to our platform technologies as well as to the products we are developing with our collaborators.

We seek patent protection for our platform technologies, including but not limited to our (i) switch technology, (ii) activator ligands for our switch technology and (iii) cell identification and selection platform. In addition, we seek patents covering specific collaborator s products. With respect to a particular collaborator s product, we may seek patent protection on some or all of the following: the compound itself, its commercial composition, its production and its methods of use.

Through the use of our various platform technologies we seek to design and build proprietary compounds, vectors, methods and processes across a variety of end markets. In particular, we focus our intellectual property on synthetic biology technologies that provide platforms for the design and creation of cells, vectors and components for our collaborators. In addition, we may pursue intermediate and product-specific patents associated with our collaborators lead programs.

Our success depends, in part, upon our ability to obtain patents and maintain adequate protection for our intellectual property relating to our technologies and products and potential products. We have adopted a strategy of seeking patent protection in the United States and in other jurisdictions globally we deem appropriate under the circumstances, with respect to certain of the technologies used in or relating to our products and processes. As of December 31, 2013, we owned at least 55 issued U.S. patents and 55 pending U.S. patent applications relating to certain aspects of our technologies, and we have pursued counterpart patents and patent applications in other jurisdictions around the world, as we have deemed appropriate. We continue to actively develop our portfolio through the filing of new patent applications, divisionals and continuations relating to our technologies, methods and products as we and our collaborators deem appropriate.

We have strategic positioning with respect to our key technologies including patent portfolios directed to: our switch technology covering aspects of our gene switches, such as our RheoSwitch Therapeutic System, and gene modulation systems, vectors, cells and organisms containing these switches, and their use; our activator ligand technology covering aspects of our activator ligands and their use; and our cell identification and selection technology covering aspects of our cell identification and selection platform, including our cell purification, isolation, characterization and manipulation technologies. In these portfolios, the issued U.S. patents and applications, if granted, are scheduled to expire from 2017 to 2034. We have also filed counterpart patents and

patent applications in other countries, when appropriate, including Australia, Argentina, Brazil, Canada, China, Europe, Hong Kong, India, Indonesia, Israel, Japan, Korea, Mexico, New Zealand, Philippines, Russia, Singapore, South Africa and Taiwan. In the future we may file in these or additional jurisdictions as deemed appropriate for the protection of our technologies. In these jurisdictions, the issued patents and patent applications, if granted, are scheduled to expire from 2018 to 2032.

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Additionally, we complement our intellectual property portfolio with exclusive and non-exclusive patent licenses and options for licenses to third party technologies.

A principal component of our strategy is maximizing the value of our ECCs through our intellectual property that covers our technologies, which is accentuated by intermediate and program-specific intellectual property protections. In addition to owned and in-licensed patents, we solidify our intellectual property protection through a combination of trade secrets, know-how, confidentiality, nondisclosure and other contractual provisions, and security measures to protect our confidential and proprietary information related to each platform and collaborator program. We regularly assess and review the risks and benefits of protecting our developments through each aspect of intellectual property available to us.

Because we rely on trade secrets, know-how and continuing technological advances to protect various aspects of our core technology, we require our employees, consultants and scientific collaborators to execute confidentiality and invention assignment agreements with us to maintain the confidentiality of our trade secrets and proprietary information. Our confidentiality agreements generally provide that the employee, consultant or scientific collaborator will not disclose our confidential information to third parties. These agreements also provide that inventions conceived by the employee, consultant or scientific collaborator in the course of working for us will be our exclusive property. Additionally, our employees agree to take certain steps to facilitate our assertion of ownership over such intellectual property. These measures may not adequately protect our trade secrets or other proprietary information. If they do not adequately protect our rights, third parties could use our technologies, and we could lose any competitive advantage we may have. In addition, others may independently develop similar proprietary information or techniques or otherwise gain access to our trade secrets, which could impair any competitive advantage we may have.

Regulatory environment

Regulations affecting Intrexon

Our ongoing research and development relies on evaluations in animals, which may become subject to bans or additional regulations, and, as described below, our research operations are subject to various environmental regulations. However, most of the laws and regulations concerning synthetic biology relate to the end products produced using synthetic biology, but that may change. For example, the Presidential Commission for the Study of Bioethical Issues in December 2010 recommended that the federal government oversee, but not regulate, synthetic biology research. The Presidential Commission also recommended that the federal government lead an ongoing review of developments in the synthetic biology field and that the federal government conduct a reasonable risk assessment before the field release of synthetic organisms. As discussed below, the products our collaborators produce are subject to extensive regulation. Refer to Risk factors The markets in which our collaborators are developing products using our technologies are subject to extensive regulation, and we rely on our collaborators to comply with all applicable laws and regulations for more discussion of regulatory risks.

Environmental regulations affecting both Intrexon and our collaborators

Our collaborators and we are subject to various federal, state and local environmental laws, rules and regulations, including those relating to the discharge of materials into the air, water and

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ground, the generation, storage, handling, use, transportation and disposal of hazardous materials and the health and safety of employees with respect to laboratory activities required for the development of products and technologies. These laws and regulations require us and our collaborators to obtain environmental permits and comply with numerous environmental restrictions. These laws and regulations also may require expensive pollution control equipment or operation changes to limit actual or potential impacts to the environment.

Our laboratory activities and those of our collaborators inherently involve the use of potentially hazardous materials, which are subject to health, safety and environmental regulations. We design our infrastructure, procedures and equipment to meet our obligations under these regulations. We perform recurring internal and third-party audits and provide employees ongoing training and support, as required. All of our employees must comply with safety instructions and procedures, which are codified in our employment policies. Federal and state laws and regulations impose requirements on the production, importation, use and disposal of chemicals and genetically modified microorganisms, which impact us and our collaborators. Our collaborators processes may contain genetically engineered organisms which, when used in an industrial processes, are considered new chemicals under the Toxic Substances Control Act program of the U.S. Environmental Protection Agency, or EPA. These laws and regulations would require our collaborators to obtain and comply with the EPA s Microbial Commercial Activity Notice process to operate. In the European Union, our collaborators may be subject to a chemical regulatory program known as REACH (Registration, Evaluation, Authorization and Restriction of Chemical Substances). Under REACH, our collaborators are required to register their products with the European Commission, and the registration process could result in significant costs or delay the manufacture or sale of our collaborators products in the European Union.

Regulations affecting our collaborators

Human therapeutics regulation

As discussed above in Risk factors Risks related to our dependence on third parties, the products produced by our collaborators enabled by our technology platforms are subject to extensive regulation. We rely on our collaborators compliance with laws and regulations applicable to the products they produce. We do not independently monitor whether our collaborators comply with applicable laws and regulations. Please see the risk factor entitled The markets in which our collaborations are developing products using our technologies are subject to extensive regulation, and we rely on our collaborations to comply with all applicable laws and regulations.

Government authorities in the United States, at the federal, state and local level, and in other countries extensively regulate, among other things, the research, development, testing, manufacture, including any manufacturing changes, packaging, storage, recordkeeping, labeling, advertising, promotion, distribution, marketing, import and export of pharmaceutical products such as those being developed by our collaborators. The processes for obtaining regulatory approvals in the United States and in foreign countries, along with subsequent compliance with applicable statutes and regulations, require the expenditure of substantial time and financial resources.

In addition to regulations in the United States, our collaborators will be subject to a variety of foreign regulations governing clinical trials and commercial sales and distribution of the products enabled by our technologies. Whether or not our collaborators obtain FDA approval for a

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product, they must obtain approval by the comparable regulatory authorities of foreign countries or economic areas, such as the European Union, before they may commence clinical trials or market products in those countries or areas. The approval process and requirements governing the conduct of clinical trials, product licensing, pricing and reimbursement vary greatly from place to place, and the time may be longer or shorter than that required for FDA approval.

Animal health regulation

The sale of animal health products is governed by the laws and regulations specific to each country. In the majority of our target markets, the relevant health authority is separate from those governing human medicinal products. In the United States, the FDA regulates animal health pharmaceuticals, the United States Department of Agriculture, or USDA, regulates veterinary vaccines, and EPA regulates veterinary pesticides. Each U.S. agency has its own rules and regulations with which our collaborators must comply. In Europe, the European Medicines Agency, or EMA, is responsible for the scientific evaluation of medicines, including animal health products being developed by our collaborators with our technology platforms. Most other countries regulatory agencies will generally refer to the FDA, USDA, European Union and other international animal health entities.

Food product regulation

The manufacturing, marketing and certain areas of research related to some of the potential food products developed by our collaborators are subject to regulation by federal and state governmental authorities in the United States, including the FDA, the USDA, and the EPA. Comparable authorities are involved in other countries, including the EMA. The FDA regulates genetically engineered animals under new animal drug provisions of the law, and the agency must approve them before they are allowed on the market. Following marketing approval, the FDA continues to regulate drug and biological products extensively.

Energy and chemical regulation

Regulation by governmental authorities in the United States and other countries is a significant factor in the development, manufacture and marketing of biofuels. The biofuels developed by our collaborators with our technology platforms may require regulatory approval by governmental agencies prior to commercialization. In the United States, various federal, and, in some cases, state statutes and regulations also govern or impact the manufacturing, safety, storage and use of biofuels. The environmental regulations discussed above also govern the development, manufacture and marketing of energy and chemical products.

Regulations affecting AquaBounty

On December 26, 2012, the FDA published its environmental assessment, or EA, for AAS, along with its Finding of No Significant Impact, or FONSI, in the Federal Register, confirming that an approval of the pending New Animal Drug Application would not have an adverse effect on the environment and opened up a 60 day period for public comment. On February 13, 2013 the FDA extended the period for public comment by an additional 60 days, which expired April 26, 2013.

Prior to the publication of the EA and FONSI, in September 2010, the FDA had held a public meeting of its Veterinary Medicine Advisory Committee to review its findings regarding AAS.

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The conclusion of its panel of experts was that AAS is indistinguishable from other farmed Atlantic salmon, is safe to eat and does not pose a threat to the environment under its conditions of use. Subsequently, the FDA initiated an EA in compliance with its obligations under the U.S. National Environmental Policy Act, which requires that all federal agencies consider the possible environmental impacts of any action that they authorize.

While we do not expect any further requirements prior to FDA approval for sale to the public and the public comment period on the EA and FONSI have closed as re-scheduled, the FDA has not provided AquaBounty with an indication of the process or associated timing that will occur subsequent to the conclusion of the re-scheduled period for public comment.

Research and development

As of December 31, 2013, we had 149 employees dedicated to research and development. Of these employees, 63 hold advanced degrees in engineering and biology or other sciences, including either a Ph.D., M.D. or D.V.M. We incurred expenses of $35.9 million for the nine months ended September 30, 2013, $64.2 million in 2012 and $70.4 million in 2011 on research and development activities. We anticipate that our research and development expenditures will increase substantially as we investigate other applications for our synthetic biotechnologies. Our primary research and development operations are located in leased laboratory facilities in San Diego, California, San Carlos, California, Germantown, Maryland, Durham, North Carolina and Blacksburg, Virginia.

As of December 31, 2013, AquaBounty had eight employees dedicated to research and development. We anticipate that AquaBounty s research and development expenditures will increase as it focuses on bringing AAS to market. AquaBounty s research and development operations are located in laboratory facilities in Massachusetts and Canada.

Manufacturing

In general, we produce small quantities of our compounds in our laboratory facilities for investigational purposes and testing.

AquaBounty has a production facility in the Republic of Panama. This facility is currently used for the purpose of producing AAS.

Sales and marketing

We do not currently have a sales and marketing force related to the end products that are being developed by our collaborators with our technologies, as those efforts must generally be undertaken by the collaborators, nor do we intend to develop such a sale and marketing force in the future. However, we are actively seeking new ECCs and marketing our technological capabilities.

AquaBounty has one employee who works in sales and marketing.

Legal proceedings

We are not party to any legal proceedings the outcome of which, we believe, if determined adversely to us, would individually or in the aggregate have a material adverse effect on our

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future business, consolidated results of operations, cash flows or financial position. We may, from time to time, be subject to legal proceedings and claims arising from the normal course of business activities.

Facilities

We lease approximately 187,000 square feet of laboratory or combined laboratory and office space which is used in our research and development efforts. We establish the geographic locations of our research and development operations based on proximity to the relevant market expertise and access to available talent pools. Our primary lab operations under lease include locations in San Diego, California, San Carlos, California, Germantown, Maryland, Durham, North Carolina and Blacksburg, Virginia. We lease an additional 37,000 square feet of administrative offices in Foster City, California, West Palm Beach, Florida, Germantown, Maryland, and Blacksburg, Virginia. The original terms of our leases range from one to five years. See also Management s discussion and analysis of financial condition and results of operations Contractual obligations and commitments. The following table shows information about our primary lab operations as of December 31, 2013:

Location	Square footage
Blacksburg, VA	35,456
Durham, NC	32,008
Germantown, MD	56,258
San Carlos, CA	37,076
San Diego, CA	23,409

AquaBounty s primary operations include locations in Massachusetts, Canada, and Panama. AquaBounty leases or owns 18,000 square feet of laboratory space.

Employees

As of December 31, 2013, we had 208 employees, 149 of whom were primarily engaged in research and development activities. Our workforce includes 73 employees with either a Ph.D., M.D. or D.V.M. and an additional 105 employees with Bachelors or Masters Degrees. None of our employees is represented by a labor union and we consider our employee relations to be good.

As of December 31, 2013, AquaBounty had 15 employees, 8 of whom were primarily engaged in research and development activities.

Corporate information

We were founded by Thomas D. Reed, Ph.D., in 1998, as an Ohio limited liability company under the name Genomatix LTD. We were reincorporated as a Virginia corporation in 2004 and changed our name to Intrexon Corporation in 2005. Our principal executive offices are located at 222 Lakeview Avenue, Suite 1400, West Palm Beach, Florida 33401, and our telephone number is (561) 410-7000. Our website is *www.dna.com*.

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Intrexon management s discussion and analysis of financial condition and results of operations

You should read the following discussion and analysis of our financial condition and results of operations together with Selected consolidated financial data and our consolidated financial statements and the related notes. In addition to historical information, this discussion and analysis contains forward-looking statements that involve risks, uncertainties and assumptions. Our actual results may differ materially from those discussed below. Factors that could cause or contribute to such differences include, but are not limited to, those identified below, and those discussed in the section titled Risk factors.

Overview

We believe Intrexon is a leader in the field of synthetic biology, an emerging and rapidly evolving discipline that applies engineering principles to biological systems. Using our suite of proprietary and complementary technologies, we design, build and regulate gene programs, which are DNA sequences that consist of key genetic components. A single gene program or a complex, multi-genic program are fabricated and stored within a DNA vector. Vectors are segments of DNA used as a vehicle to transmit genetic information. DNA vectors can, in turn, be introduced into cells in order to generate a simple or complex cellular system, which are the basic and complex cellular activities that take place within a cell and the interaction of those systems in the greater cellular environment. It is these genetically modified cell systems that can be used to produce proteins, produce small molecules, or serve as cell-based products, which enable the development of new and improved products and manufacturing processes across a variety of end markets, including healthcare, food, energy and environmental sciences. Intrexon s synthetic biology capabilities include the ability to precisely control the amount, location and modification of biological molecules to control the function and output of living cells and optimize for desired results at an industrial scale.

We have devised our business model to bring many different commercial products to market through the formation of exclusive channel collaborations, or ECCs, with collaborators that have expertise within specific industry segments. In our ECCs, we provide expertise in the engineering, creation and modification of gene programs and cellular systems, and our collaborators are responsible for providing market and product development expertise, as well as regulatory, sales and marketing capabilities. Generally, our collaborators compensate us through payment of technology access fees, royalties, milestones and reimbursement of certain costs. This business model allows us to leverage our capabilities and capital across a broader landscape of product opportunities and end markets than we would be capable of addressing on our own.

In certain strategic circumstances, we may enter into a joint venture with an ECC collaborator. In that event, we will enter into an ECC with a joint venture entity and may contribute access to our technology, cash or both into the joint venture which we will jointly control with our ECC collaborator. Pursuant to a joint venture agreement, we may be required to contribute additional capital to the joint venture, and we may be able to receive a higher financial return than we would normally receive from an ECC to the extent that we and our ECC collaborator are successful in developing one or more products. We recently executed the first two such joint venture agreements: one with a subsidiary of Sun Pharmaceutical Industries Ltd., an international specialty pharmaceutical company focused on chronic diseases, and one with OvaScience, Inc., a life sciences company focused on the discovery, development and commercialization of new

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treatments for infertility. Alternatively, where a collaborator wishes to work with us to develop an early-stage program, we may execute a research collaboration pursuant to which we receive reimbursement for our development costs but the exclusive license rights, and related access fees, are deferred until completion of an initial research program.

In 2011, we entered into our first collaboration and have steadily increased the number over the past three years, entering into new agreements and expanding existing ECCs. To date, we have entered into 21 such agreements and expansions with 17 different counterparties, of which 19 remain active. We have 18 active ECCs, including three expansions, and one research collaboration that we anticipate could, if successful, become an ECC. Under the ECCs, we are developing products in the fields of healthcare and food. In healthcare, our ECCs include programs in oncology, anti-infectives, antibiotics and tissue repair. In food, we are working to increase the productivity and nutritional value of salmon and other fish. We are also working to establish ECCs in the areas of energy and environmental sciences. Please see Description of Intrexon s Business Our ECCs for a detailed description of our material ECCs.

Mergers and acquisitions

We completed several acquisitions in 2011 in order to enhance our capabilities and service offerings. On January 26, 2011, we acquired Agarigen, Inc., or Agarigen, a North Carolina-based company that allowed us to expand our capabilities in the agricultural sector. On August 31, 2011, we acquired the LEAP platform technology from Cyntellect, Inc., or Cyntellect. On October 5, 2011, we acquired the cell systems informatics technology from GT Life Sciences, Inc., or GT Life. On October 21, 2011, we acquired the mAbLogix antibody platform from Immunologix, Inc., or Immunologix. See the footnotes to our audited consolidated financial statements found elsewhere in this prospectus for additional information with respect to these business combinations. See Description of Intrexon s Business Our suite of proprietary and complementary technologies.

Cyntellect was a related party to us through affiliates of Third Security, LLC. We recorded this transaction as a transaction between entities under common control and therefore, the results of operations of Cyntellect are presented in our consolidated financial statements for all periods presented. The results of operations for each of the other entities that we acquired have been included in our consolidated results of operations after the respective dates of acquisition. Because they represented significant acquisitions, the stand-alone audited financial statements for the period January 1, 2011 through the respective acquisition dates for GT Life and Immunologix are found elsewhere in this prospectus.

On November 16, 2012, we acquired 48,631,444 shares of common stock of AquaBounty Technologies, Inc., or AquaBounty, representing 47.56 percent of the then outstanding shares of AquaBounty, through a definitive purchase agreement with an existing AquaBounty shareholder and its affiliate. We originally accounted for our investment in AquaBounty using the equity method. On March 15, 2013, we acquired 18,714,814 additional shares of AquaBounty common stock increasing our aggregate ownership in AquaBounty to 53.82 percent, resulting in us gaining control over AquaBounty. AquaBounty was consolidated on our results of operations and financial position beginning on March 15, 2013.

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Financial overview

We have incurred significant losses since our inception. We anticipate that we may continue to incur significant losses for the foreseeable future, and we may never achieve or maintain profitability. We have never generated any royalty revenues from sales of products by our collaborators and may never be profitable.

We expect our future capital requirements will be substantial, particularly as we continue to develop our business and expand our synthetic biology technology platform. Although we believe that, based on our current level of operations and anticipated growth, our existing cash and cash equivalents and cash expected to be received from our current collaborators will provide adequate funds for ongoing operations, planned capital expenditures and working capital requirements through at least the next 12 months, we may need additional capital if our current plans and assumptions change.

Sources of revenue

We derive our revenues through the execution of ECCs for the development and commercialization of products enabled by our technologies. Generally, the terms of our ECCs provide that we receive some or all of the following: (i) technology access fees upon consummation of such ECC; (ii) reimbursements of costs incurred by us for our research and development and/or manufacturing efforts related to the specific application provided for in the ECC; (iii) milestone payments upon the achievement of specified development, regulatory and commercial activities; and (iv) royalties on sales of products arising from the collaboration.

Our technology access fees and milestone payments may be in the form of cash or securities of the collaborator. Because our ECCs contain multiple arrangements, we typically defer much of the technology access fees and milestone amounts received and recognize such revenues in the future over the anticipated performance period. We are also entitled to sublicensing revenues in those situations where our collaborators choose to license our technologies to other parties.

In certain strategic circumstances, we may enter into a joint venture with an ECC collaborator. In that event, we will enter into an ECC with a joint venture entity and may contribute access to our technology, cash or both into the joint venture which we will jointly control with our ECC collaborator. Pursuant to a joint venture agreement, we may be required to contribute additional capital to the joint venture, and we may be able to receive a higher financial return than we would normally receive from an ECC to the extent that we and our ECC collaborator are successful in developing one or more products.

Research and development expenses

We recognize research and development expenses as they are incurred. Our research and development expenses consist primarily of:

- salaries and related overhead expenses for personnel in research and development functions;
- fees paid to consultants and contract research organizations who perform research on our behalf and under our direction;
- costs related to laboratory supplies used in our research and development efforts;

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depreciation of leasehold improvements, laboratory equipment and computers;

amortization of patents and related technologies acquired in mergers and acquisitions;

rent and utility costs for our research and development facilities; and

costs related to stock options granted to personnel in research and development functions.

We have no individually significant research and development projects and our research and development expenses primarily relate to either the costs incurred to expand or otherwise improve our multiple platform technologies or the costs incurred to develop a specific application of our technologies in support of current or prospective collaborators. Research and development expenses typically do not include significant development, including pre-clinical or clinical development, activities since they are the responsibility of our collaborators. Research and development expenses incurred for programs we support pursuant to an ECC agreement are reimbursed by the collaborator at cost and all other research and development programs may be terminated or otherwise deferred at our discretion. The amount of our research and development expenses may be impacted by, among other things, the number of ECCs and the number and size of programs we may support on behalf of an ECC.

The table below summarizes our research and development expenses incurred to expand or otherwise improve our multiple platform technologies or the costs incurred to develop a specific application of our technologies in support of current or prospective collaborators for the three and nine months ended September 30, 2013 and 2012 (unaudited) and the years ended December 31, 2012 and 2011. Other research and development expenses for these periods include indirect salaries and overhead expenses that are not allocated to either expanding or improving our multiple platform technologies or specific applications of our technologies in support of current or prospective collaborators.

	Three months ended September 30,		Nine months ended September 30,		Years ended December 31,	
	2013	2012	2013	2012	2012	2011
	(In thousands) (unaudited)					
Expansion or improvement of our platform technologies	$ 3,792	$ 7,528	$ 12,982	$ 28,155	$ 35,182	$ 32,724
Specific applications of our technologies in support of current and prospective collaborators	5,241	4,236	16,132	13,366	17,123	22,714
Other	1,730	2,600	6,753	9,463	11,880	14,948
Total research and development expenses	$ 10,763	$ 14,364	$ 35,867	$ 50,984	$ 64,185	$ 70,386

General and administrative expenses

General and administrative expenses consist primarily of salaries and related costs for employees in executive, operational, finance and legal functions. Other significant general and administrative expenses include rent and utilities, insurance, legal services and expenses associated with obtaining and maintaining our intellectual property.

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Other income (expense), net

We hold equity securities received and/or purchased from certain collaborators. Other than the investment in AquaBounty which was accounted for using the equity method discussed below, we elected the fair value option to account for our equity securities held in these collaborators, including ZIOPHARM Oncology, Inc., or ZIOPHARM, which is an equity method investment. These equity securities are recorded at fair value at each reporting date. Unrealized appreciation (depreciation) resulting from fair value adjustments are reported as other income (expense) in the consolidated statement of operations. As such, we bear the risk that fluctuations in the securities share prices may significantly impact our results of operations.

Interest income consists of interest earned on our cash and cash equivalents.

Interest expense pertains to equipment currently under four capitalized leases. Two of these capitalized leases mature in 2013, one matures in 2014, and the last one matures in 2015 and, as such, we will no longer be subject to the interest expense under these capitalized leases as of those dates.

On March 15, 2013, we recorded a gain on our previously held equity investment in AquaBounty; such gain represented the adjustment to fair value of the pro rata share of our original investment.

Equity in net income (loss) of affiliate

For the nine months ended September 30, 2013 and the year ended December 31, 2012, equity in net loss of affiliate is our pro-rata share of our equity method investment s operating results, adjusted for accretion of basis difference. As of December 31, 2012 and through March 15, 2013, we accounted for our investment in AquaBounty using the equity method of accounting as we had the ability to exercise significant influence over, but not control of, the operating activities of AquaBounty. On March 15, 2013, we acquired 18,714,814 additional shares of AquaBounty increasing our ownership in AquaBounty to 53.82 percent. We have consolidated AquaBounty on our results of operations and financial position beginning on March 15, 2013.

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Results of operations

Comparison of the three months ended September 30, 2013 (unaudited) and the three months ended September 30, 2012 (unaudited)

The following table summarizes our results of operations for the three months ended September 30, 2013 and 2012, together with the changes in those items in dollars and as a percentage:

	Three months ended September 30,		Dollar	%
	2013	2012	change	Change
			(In thousands)	
Revenues:				
Collaboration revenues	$ 6,028	$ 2,904	$ 3,124	107.6%
Other revenues	105	21	84	400.0%
Total revenues	6,133	2,925	3,208	109.7%
Operating expenses:				
Research and development	10,763	14,364	(3,601)	(25.1)%
General and administrative	7,407	5,046	2,361	46.8%
Total operating expenses	18,170	19,410	(1,240)	(6.4)%
Operating loss	(12,037)	(16,485)	4,448	(27.0)%
Total other income (expense), net	27,028	(4,005)	31,033	774.9%
Net income (loss)	14,991	(20,490)	35,481	173.24%
Net loss attributable to noncontrolling interest	449		449	100.0%
Net income (loss) attributable to Intrexon	$ 15,440	$ (20,490)	$ 35,930	175.4%

Revenues

Total revenues were $6.1 million for the three months ended September 30, 2013 compared to $2.9 million for the three months ended September 30, 2012, an increase of $3.2 million, or 109.7 percent. The following table shows the collaboration revenue recognized for upfront and milestone payments received from our collaborators and reimbursements received for research and development services provided to our collaborators for the three months ended September 30, 2013 and 2012, together with the changes in those items:

	Upfront and milestone payments			Research and development services			Total		
	Three months ended September 30,		Dollar	Three months ended September 30,		Dollar	Three months ended September 30,		Dollar
	2013	2012	change	2013	2012	change	2013	2012	change
					(In thousands)				
ZIOPHARM Oncology, Inc.	$ 644	$ 314	$ 330	$ 2,122	$ 2,137	$ (15)	$ 2,766	$ 2,451	$ 315
Oragenics, Inc.	138	137	1	344	137	207	482	274	208
Fibrocell Science, Inc.	327		327	1,383		1,383	1,710		1,710
Other	318	36	282	752	143	609	1,070	179	891

Total	$ 1,427	$ 487	$ 940	$ 4,601	$ 2,417	$ 2,184	$ 6,028	$ 2,904	$ 3,124

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The $3.1 million increase in collaboration revenue resulted primarily from the following items:

- We executed our first collaboration with Fibrocell Science, Inc., or Fibrocell, in the fourth quarter of 2012 and expanded that collaboration in the second quarter of 2013 and as a result, have recognized $0.3 million in collaboration revenue from upfront payments and an additional $1.4 million for research and development services provided pursuant to this collaboration; and

- We have executed additional collaborations since the beginning of the fourth quarter of 2012 through September 30, 2013 which collectively resulted in an additional $0.2 million in collaboration revenue from upfront payments and $0.5 million in research and development services.

Research and development expenses

Research and development expenses were $10.8 million for the three months ended September 30, 2013 compared to $14.4 million for the three months ended September 30, 2012. The $3.6 million decrease in research and development expenses is primarily the result of the following:

- Salaries, benefits and other personnel expenses decreased $2.3 million to $4.5 million for the three months ended September 30, 2013 from $6.8 million for the three months ended September 30, 2012. The decrease is primarily related to a decrease in the number of employees in the three months ended September 30, 2013 compared to three months ended September 30, 2012. Throughout 2012 and the first half of 2013, we eliminated certain positions due to improvements in our production processes as well as our reliance on additional automation. We also transitioned from a primary emphasis on building our parts inventory and other platforms towards applying such platforms towards specific applications for the benefit of our current and prospective collaborators. We also consolidated and centralized certain research and development functions to eliminate redundancies which arose primarily as a result of acquisitions of various technologies in late 2011; and

- Lab supply expenses decreased $0.6 million to $1.4 million for the three months ended September 30, 2013 from $2.0 million for the three months ended September 30, 2012. Supplies used in DNA manufacturing decreased $0.5 million for the three months ended September 30, 2013 compared to the three months ended September 30, 2012. As discussed above, we transitioned from building our parts inventory towards applying our technologies for the benefit of current and prospective collaborators. The remaining decrease in lab supplies is the result of centralizing certain research and development functions as discussed above.

General and administrative expenses

General and administrative expenses increased $2.4 million to $7.4 million for the three months ended September 30, 2013 compared to $5.0 million for the three months ended September 30, 2012. The $2.4 million increase is primarily the result of salaries, benefits and other personnel expenses increasing $1.2 million to $4.0 million for the three months ended September 30, 2013 from $2.8 million for the three months ended September 30, 2012. This increase is primarily the result of our hiring of additional employees as we prepared to become a public company and also for the cost of AquaBounty employees since we began consolidating AquaBounty on

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March 15, 2013. Legal and professional expenses increased $0.6 million for the three months ended September 30, 2013 compared to the three months ended September 30, 2012 due to costs associated with our initial public offering.

Total other income (expense), net

Total other income (expense), net is primarily comprised of unrealized appreciation (depreciation) in fair value of equity securities which was $27.3 million for the three months ended September 30, 2013 compared to $(3.9) million for the three months ended September 30, 2012. The unrealized appreciation (depreciation) is the result of market change for the equity securities we hold in certain of our collaborators.

Comparison of the nine months ended September 30, 2013 (unaudited) and the nine months ended September 30, 2012 (unaudited)

The following table summarizes our results of operations for the nine months ended September 30, 2013 and 2012, together with the changes in those items in dollars and as a percentage:

	Nine months ended September 30,		Dollar	%
	2013	2012	change	Change
			(In thousands)	
Revenues:				
Collaboration revenues	$ 16,566	$ 7,163	$ 9,403	131.3%
Other revenues	324	106	218	205.7%
Total revenues	16,890	7,269	9,621	132.4%
Operating expenses:				
Research and development	35,867	50,984	(15,117)	(29.7)%
General and administrative	21,320	19,139	2,181	11.4%
Total operating expenses	57,187	70,123	(12,936)	(18.4)%
Operating loss	(40,297)	(62,854)	22,557	(35.9)%
Total other income, net	12,797	11,917	880	7.4%
Equity in net loss of affiliate	(390)		(390)	100.0%
Net loss	(27,890)	(50,937)	23,047	(45.2)%
Net loss attributable to noncontrolling interest	1,114		1,114	100.0%
Net loss attributable to Intrexon	$ (24,776)	$ (50,937)	$ 24,161	(47.4)%

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Revenues

Total revenues were $16.9 million for the nine months ended September 30, 2013 compared to $7.3 million for the nine months ended September 30, 2012, an increase of $9.6 million, or 132.4 percent. The following table shows the collaboration revenue recognized for upfront and milestone payments received from our collaborators and reimbursements received for research and development services provided to our collaborators for the nine months ended September 30, 2013 and 2012, together with the changes in those items:

	Upfront and milestone payments			Research and development services			Total		
	Nine months ended September 30,		Dollar change	Nine months ended September 30,		Dollar change	Nine months ended September 30,		Dollar change
	2013	2012		2013	2012		2013	2012	
	(In thousands)								
ZIOPHARM Oncology, Inc.	$ 1,932	$ 943	$ 989	$ 5,843	$ 5,095	$ 748	$ 7,775	$ 6,038	$ 1,737
Synthetic Biologics, Inc.	2,024	97	1,927	865	194	671	2,889	291	2,598
Oragenics, Inc.	412	182	230	1,057	137	920	1,469	319	1,150
Fibrocell Science, Inc.	643		643	2,428		2,428	3,071		3,071
Other	304	9	295	1,058	506	552	1,362	515	847
Total	$ 5,315	$ 1,231	$ 4,084	$ 11,251	$ 5,932	$ 5,319	$ 16,566	$ 7,163	$ 9,403

The $9.4 million increase in collaboration revenue resulted primarily from the following items:

Collaboration revenue recognized for upfront and milestone payments received from ZIOPHARM increased primarily due to the recognition of deferred revenue related to the achievement of a collaboration milestone of $18.3 million in October 2012. Reimbursements from research and development services provided to ZIOPHARM increased $0.7 million for the nine months ended September 30, 2013 compared to the nine months ended September 30, 2012 as a result of an increase of new programs initiated throughout the second half of 2012 and the first half of 2013;

Collaboration revenue for upfront payments received from Synthetic Biologics, Inc., or Synthetic Biologics, increased for the nine months ended September 30, 2013 compared to the nine months ended September 30, 2012 due to the immediate recognition of previously deferred revenue arising from our first Synthetic Biologics ECC. In April 2013, we and Synthetic Biologics agreed to terminate this ECC and as a result, we recognized the balance of deferred revenue of $1.5 million associated with the original upfront consideration received by us. Reimbursements for research and development services provided to Synthetic Biologics increased $0.7 million for the nine months ended September 30, 2013 compared to the nine months ended September 30, 2012 due primarily to the work performed pursuant to the second ECC which was consummated in the second half of 2012;

Our first ECC with Oragenics commenced in June 2012. Our research and development services provided during the nine months ended September 30, 2013 have primarily consisted of research on improving production in the field specified in the ECC and developing and validating these improved production methods;

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Our ECC with Fibrocell commenced in October 2012 and in June 2013, the field of use was expanded resulting in an additional $7.6 million of upfront consideration to us. The collaboration revenue recorded for this ECC consists both of amortization of the upfront consideration received in October 2012 and June 2013 and reimbursements for research and development services provided on the field of use specified in the ECC; and

The remaining increase of collaboration revenues is the result of the recognition of deferred revenue and reimbursements for research and development expenses for our other ECCs, including three additional ECCs entered into during 2013.

Research and development expenses

Research and development expenses were $35.9 million for the nine months ended September 30, 2013 compared to $51.0 million for the nine months ended September 30, 2012. The $15.1 million decrease in research and development expenses is primarily the result of the following:

Salaries, benefits and other personnel expenses decreased $7.5 million to $15.7 million for the nine months ended September 30, 2013 from $23.2 million for the nine months ended September 30, 2012. The decrease is primarily related to a decrease in the number of employees in the nine months ended September 30, 2013 compared to nine months ended September 30, 2012. Throughout 2012 and the first half of 2013, we eliminated certain positions due to improvements in our production processes as well as our reliance on additional automation. We also transitioned from a primary emphasis on building our parts inventory and other platforms towards applying such platforms towards specific applications for the benefit of our current and prospective collaborators. We also consolidated and centralized certain research and development functions to eliminate redundancies which arose primarily as a result of acquisitions of various technologies in late 2011;

Expenses related to consultants and third party contract research organizations decreased $1.5 million to $3.2 million for the nine months ended September 30, 2013 from $4.7 million for the nine months ended September 30, 2012. The decrease is the result of our continuing efforts to reduce the level of research and development performed by third parties and, where practical, performing this research and development internally; and

Lab supply expenses decreased $4.7 million to $4.0 million for the nine months ended September 30, 2013 from $8.7 million for the nine months ended September 30, 2012. Supplies used in DNA manufacturing decreased $3.5 million for the nine months ended September 30, 2013 compared to the nine months ended September 30, 2012. As discussed above, we transitioned from building our parts inventory towards applying our technologies for the benefit of current and prospective collaborators. The remaining decrease in lab supplies is the result of centralizing certain research and development functions as discussed above.

General and administrative expenses

General and administrative expenses were $21.3 million for the nine months ended September 30, 2013 compared to $19.1 million for the nine months ended September 30, 2012 resulting in an increase of $2.2 million. The $2.2 million increase in general and administrative expenses is the result of salaries, benefits and other personnel expenses increasing $1.7 million to

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$11.9 million for the nine months ended September 30, 2013 from $10.2 million for the nine months ended September 30, 2012. This increase is primarily the result of our hiring of additional employees as we prepared to become a public company and also the cost of AquaBounty employees since we began consolidating AquaBounty on March 15, 2013.

Total other income, net

Total other income, net is primarily comprised of unrealized appreciation in fair value of equity securities which was $5.7 million for the nine months ended September 30, 2013 compared to $12.0 million for the nine months ended September 30, 2012. The unrealized appreciation is the result of market change for the equity securities we hold in other entities. Total other income (expense), net for the nine months ended September 30, 2013 includes a $7.4 million gain on our previously held equity interest in AquaBounty triggered by the requirement to consolidate AquaBounty as of March 15, 2013.

Equity in net income (loss) of affiliate

In November 2012, we purchased a 47.56 percent interest in AquaBounty and through March 15, 2013, we accounted for this investment using the equity method. Our equity in net loss of AquaBounty s operations of $0.4 million reflects our portion of the net losses of AquaBounty during the period January 1, 2013 through March 15, 2013.

Comparison of the year ended December 31, 2012 and the year ended December 31, 2011

The following table summarizes our results of operations for the years ended December 31, 2012 and 2011, together with the changes in those items in dollars and as a percentage:

	Years ended December 31,			
	2012	2011	Dollar change	% Change
	(In thousands)			
Revenues:				
Collaboration revenues	$ 13,706	$ 5,118	$ 8,588	167.8%
Other revenues	219	3,053	(2,834)	(92.8)%
Total revenues	13,925	8,171	5,754	70.4%
Operating expenses:				
Research and development	64,185	70,386	(6,201)	(8.8)%
General and administrative	24,897	18,300	6,597	36.0%
Other operating expenses		1,912	(1,912)	(100.0)%
Total operating expenses	89,082	90,598	(1,516)	(1.7)%
Operating loss	(75,157)	(82,427)	7,270	(8.8)%
Total other expense, net	(6,443)	(2,853)	(3,590)	125.8%
Equity in net loss of affiliate	(274)		(274)	100.0%
Net loss	$ (81,874)	$ (85,280)	$ 3,406	(4.0)%

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Revenues

Revenues were $13.9 million for the year ended December 31, 2012 compared to $8.2 million for the year ended December 31, 2011 resulting in an increase of $5.7 million, or 70.4 percent. The following table shows the collaboration revenue recognized for upfront and milestone payments received from each of our collaborators and reimbursements received for research and development services provided to each of our collaborators for the years ended December 31, 2012 and 2011, together with the changes in those items:

	Upfront and milestone payments			Research and development services			Total		
	Years ended December 31,		Dollar	Years ended December 31,		Dollar	Years ended December 31,		Dollar
	2012	2011	change	2012	2011	change	2012	2011	change
	(In thousands)								
ZIOPHARM Oncology, Inc.	$ 5,068	$ 2,372	$ 2,696	$ 6,333	$ 2,724	$ 3,609	$ 11,401	$ 5,096	$ 6,305
Synthetic Biologics, Inc.	293	22	271	327		327	620	22	598
Elanco, Inc.	12		12	587		587	599		599
Oragenics, Inc.	320		320	516		516	836		836
Fibrocell Science, Inc.	158		158	61		61	219		219
Other				31		31	31		31
Total	$ 5,851	$ 2,394	$ 3,457	$ 7,855	$ 2,724	$ 5,131	$ 13,706	$ 5,118	$ 8,588

The $8.6 million increase in collaboration revenue from 2011 to 2012 is the result of the following:

Collaboration revenue recognized for upfront and milestone payments received from ZIOPHARM increased in 2012 primarily as a result of a collaboration milestone being achieved in October 2012. We received $18.3 million of milestone consideration and recognized $3.8 million as collaboration revenue in 2012. The milestone was not deemed substantive and the remaining $14.5 million of milestone consideration was recorded as deferred revenue and will be recognized over the expected life of our technology platform using a straight-line approach. Reimbursements from research and development services provided to ZIOPHARM increased $3.6 million in 2012 as a result of an increase of new programs initiated in 2012 with ZIOPHARM under our collaboration and continued progression of the research for the collaboration programs initiated in 2011;

Collaboration revenue for upfront payments received from Synthetic Biologics increased in 2012 as a result of a full year of revenue from the amortization of the upfront payment received for our first ECC with Synthetic Biologics in November 2011 as well as a partial year of revenue from the upfront payment received for our second ECC with Synthetic Biologics in August 2012. Our research and development services provided in 2012 have primarily consisted of initial research of the fields specified in the ECCs;

Our ECC with Elanco, the animal health division of Eli Lilly and Company, or Elanco, commenced in late November 2011 and we began providing research and development services in 2012; and

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Our ECC with Oragenics commenced in June 2012 and we have recognized $0.3 million of collaboration revenue from the amortization of the upfront payment received upon the execution of the ECC. Our research and development services provided in 2012 have primarily consisted of research on improving production in the field of use specified in the ECC and developing and validating these improved production methods.

Our 2011 amounts of other revenues include $2.7 million of revenue related to Cyntellect.

In future periods, our revenues will depend on the number of ECCs into which we enter, the advancement and creation of programs within our ECCs and the extent to which our collaborators bring products enabled by our technologies to market. Our revenues will also depend on the ability of AquaBounty to receive regulatory approval and establish successful commercialization of its AquAdvantage Salmon products. In light of our limited operating history and experience in consummating new ECCs, there can be no assurance as to the timing, magnitude and predictability of revenues to which we might be entitled.

Research and development expenses

Research and development expenses were $64.2 million for the year ended December 31, 2012 compared to $70.4 million for the year ended December 31, 2011 resulting in a decrease of $6.2 million, or 8.8 percent. The $6.2 million net decrease in research and development expenses is the result of the following:

Expenses related to licensing agreements for in-licensed technologies were $1.8 million for the year ended December 31, 2012 compared to $9.3 million for the year ended December 31, 2011 resulting in a decrease of $7.5 million. In 2011, we entered into an exclusive licensing agreement with Halozyme Therapeutics, Inc., or Halozyme, for the use of Halozyme s proprietary enzyme. Under the terms of the agreement, we paid a license fee of $9.0 million upon execution of this agreement, which was expensed when paid in 2011. In 2012, we paid and expensed an annual exclusivity fee of $1.0 million. This decrease was offset by an increase in contractual payments for other license agreements;

Expenses related to consultants and third party contract research organizations were $5.5 million for the year ended December 31, 2012 compared to $10.8 million for the year ended December 31, 2011 resulting in a decrease of $5.3 million. The decrease in 2012 is the result of our reducing the level of research and development being performed by third parties and, where practical, performing this research and development internally;

Laboratory supply expenses were $10.4 million for the year ended December 31, 2012, compared to $11.9 million for the year ended December 31, 2011, resulting in a decrease of $1.5 million. Supplies used in DNA manufacturing in 2012 decreased $2.6 million as we improved the efficiency of our production process and reduced the potential for manufacturing errors. We also transitioned away from focusing on building our parts inventory towards manufacturing specific DNA parts for current and prospective collaborators. This decrease was partially offset by an increase of $1.1 million in additional supplies required for those technologies which we acquired in 2011;

Salaries, benefits and other personnel expenses were $29.4 million for the year ended December 31, 2012, compared to $24.8 million for the year ended December 31, 2011, resulting in an increase of $4.6 million. Of this increase, $3.4 million was the result of an increase in the average number of research and development employees of 26 employees from 2011 to 2012

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as we expanded the capabilities acquired through merger and acquisition activity in 2011 and developed specific capabilities to support new and prospective collaborators. We also incurred $1.2 million of performance bonuses in 2012 and we paid no bonuses to employees in 2011;

Depreciation and amortization expense was $7.2 million for the year ended December 31, 2012, compared to $3.2 million for the year ended December 31, 2011, resulting in an increase of $4.0 million. Amortization expense for the patents and related technologies acquired in 2011 increased $1.8 million in 2012 as a result of a full year of amortization. The remaining increase is related to increased depreciation expense on property and equipment purchased in 2012 as well as a full year of depreciation for equipment acquired in 2011. We purchased $7.5 million and $13.0 million of property and equipment in 2012 and 2011, respectively, to scale up our DNA manufacturing capacity and for use in new facilities for our agricultural and industrial operations;

Rent and utilities expenses were $5.4 million for the year ended December 31, 2012, compared to $4.3 million for the year ended December 31, 2011, resulting in an increase of $1.1 million. The increase is due to a full year of rent incurred related to the addition of four new research and development facilities as a result of our acquisitions; and

Our 2011 amounts include $1.2 million of research and development expenses related to Cyntellect.

We expect that our research and development expenses will increase as we continue to enter into ECCs and operate as a public company. We believe these increases will likely include increased costs related to the hiring of additional personnel in research and development functions, increased costs paid to consultants and contract research organizations and increased costs related to laboratory supplies.

General and administrative expenses

General and administrative expenses were $24.9 million for the year ended December 31, 2012 compared to $18.3 million for the year ended December 31, 2011 resulting in an increase of $6.6 million, or 36.0 percent. The $6.6 million net increase in general and administrative expenses is the result of the following:

Salaries, benefits and other personnel expenses were $13.2 million for the year ended December 31, 2012, compared to $5.3 million for the year ended December 31, 2011, resulting in an increase of $7.9 million. Of this increase, $5.2 million was the result of an increase in the average number of general and administrative employees of 16 employees from 2011 to 2012, which was primarily the result of increasing our general and administrative personnel to support our acquired operations and additional collaborators. In addition to our increase in general and administrative employees, our non-employee, non-compensated Chief Executive Officer began serving the role on a full-time basis at the beginning of 2012, resulting in a non-cash increase to our general and administrative expenses of $1.4 million. Lastly, we paid bonuses of $1.3 million for 2012 whereas we did not pay bonuses for 2011;

Legal and professional fees were $6.4 million for the year ended December 31, 2012, compared to $9.1 million for the year ended December 31, 2011, resulting in a decrease of $2.7 million. These expenses in 2012 and 2011 are primarily comprised of fees for external legal counsel, obtaining and maintaining patents and intellectual property, assistance with ECC transactions,

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external consulting and recruiting services. The decrease in these expenses is primarily the result of the lack of merger and acquisition activity in 2012; and

Our 2011 amounts include $0.1 million of general and administrative expenses related to Cyntellect.

We expect that our general and administrative expenses will increase as we operate as a public company. We believe that these increases will likely include increased costs for director and officer liability insurance, costs related to the hiring of additional personnel and increased fees for outside consultants, lawyers and accountants. We also expect to incur increased costs to comply with corporate governance, internal controls and similar requirements applicable to public companies.

Other operating expenses

Other operating expenses of $1.9 million for the year ended December 31, 2011 relate to Cyntellect.

Total other expense, net

Total other expense, net is primarily comprised of unrealized depreciation in fair value of equity securities which was $(6.3) million for the year ended December 31, 2012 compared to unrealized depreciation of $(2.7) million for the year ended December 31, 2011 resulting in a change of $3.6 million. This change is the result of market depreciation as of December 31, 2012 for the equity securities we hold in other entities.

Equity in net income (loss) of affiliate

In November 2012, we purchased a 47.56 percent interest in AquaBounty and through December 31, 2012, we accounted for this investment using the equity method. Our equity in net loss of AquaBounty s operations for the period subsequent to investment through December 31, 2012 of $0.3 million reflects our portion of the net losses of AquaBounty for the period from the date of our investment through December 31, 2012.

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Quarterly Results of Operations

The following tables set forth our unaudited operating results for each of the ten quarters in the period from January 1, 2011 to September 30, 2013. This information is derived from our unaudited financial statements, which in the opinion of management contain all adjustments, consisting of only normal recurring adjustments, that we consider necessary for a fair statement of such financial data. Operating results for these periods are not necessarily indicative of the operating results for a full year. Historical results are not necessarily indicative of results to be expected in future periods. You should read these data together with our financial statements and the related notes included elsewhere in this prospectus.

	Three Months Ended							
	March 31, 2011	June 30, 2011	Septem-ber 30, 2011	Decem-ber 31, 2011	March 31, 2012	June 30, 2012	Septem-ber 30, 2012	Decem-ber 31, 2012
	(in thousands, except share and per share data)							
Statement of Operations Data:								
Revenues:								
Collaboration revenues	$ 1,649	$ 1,996	$ 806	$ 667	$ 1,554	$ 2,705	$ 2,904	$ 6,543
Other revenues	1,818	764	202	269	64	21	21	113
Total revenues	3,467	2,760	1,008	936	1,618	2,726	2,925	6,656
Operating expenses:								
Research and development	12,011	22,061	15,789	20,525	18,979	17,641	14,364	13,201
General and administrative	3,558	3,331	5,421	5,990	7,760	6,333	5,046	5,758
Other operating expenses	1,281	516	115					
Total operating expenses	16,850	25,908	21,325	26,515	26,739	23,974	19,410	18,959
Loss from operations	(13,383)	(23,148)	(20,317)	(25,579)	(25,121)	(21,248)	(16,485)	(12,303)
Total other income (expense), net	9,746	(1,203)	(13,642)	2,246	11,209	4,713	(4,005)	(18,360)
Equity in net loss of affiliate								(274)
Net income (loss)	$ (3,637)	$ (24,351)	$ (33,959)	$ (23,333)	$ (13,912)	$ (16,535)	$ (20,490)	$ (30,937)
Net loss attributable to noncontrolling interest								
Net income (loss) attributable to Intrexon	$ (3,637)	$ (24,351)	$ (33,959)	$ (23,333)	$ (13,912)	$ (16,535)	$ (20,490)	$ (30,937)
Accretion of dividends on redeemable convertible preferred stock, not declared	(2,460)	(3,250)	(4,115)	(4,043)	(5,460)	(5,362)	(5,469)	(5,703)
Undistributed earnings allocated to preferred shareholders								
Net income (loss) attributable to Intrexon common shareholders	$ (6,097)	$ (27,601)	$ (38,074)	$ (27,376)	$ (19,372)	$ (21,897)	$ (25,959)	$ (36,640)
Net income (loss) attributable to Intrexon common shareholders per share, basic	$ (1.21)	$ (5.28)	$ (7.21)	$ (5.06)	$ (3.55)	$ (3.99)	$ (4.66)	$ (6.52)

Net income (loss) attributable to Intrexon common shareholders per share, diluted	$ (1.21)	$ (5.28)	$ (7.21)	$ (5.06)	$ (3.55)	$ (3.99)	$ (4.66)	$ (6.52)
Weighted average shares outstanding, basic	5,029,473	5,231,403	5,283,781	5,413,238	5,456,264	5,484,572	5,576,526	5,616,031
Weighted average shares outstanding, diluted	5,029,473	5,231,403	5,283,781	5,413,238	5,456,264	5,484,572	5,576,526	5,616,031

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	Three Months Ended		
	March 31, 2013	June 30, 2013	September 30, 2013
	(in thousands, except share and per share data)		
Statement of Operations Data:			
Revenues:			
Collaboration revenues	$ 3,864	$ 6,674	$ 6,028
Other revenues	112	107	105
Total revenues	3,976	6,781	6,133
Operating expenses:			
Research and development	11,502	13,602	10,763
General and administrative	6,480	7,433	7,407
Other operating expenses			
Total operating expenses	17,982	21,035	18,170
Loss from operations	(14,006)	(14,254)	(12,037)
Total other income (expense), net	(21,966)	7,735	27,028
Equity in net loss of affiliate	(390)		
Net income (loss)	$ (36,362)	$ (6,519)	$ 14,991
Net loss attributable to noncontrolling interest	51	507	449
Net income (loss) attributable to Intrexon	$ (36,311)	$ (6,012)	$ 15,440
Accretion of dividends on redeemable convertible preferred stock, not declared	(6,405)	(7,942)	(4,044)
Undistributed earnings allocated to preferred shareholders			(3,106)
Net income (loss) attributable to Intrexon common shareholders	$ (42,716)	$ (13,954)	$ 8,290
Net income (loss) attributable to Intrexon common shareholders per share, basic	$ (7.54)	$ (2.46)	$ 0.15
Net income (loss) attributable to Intrexon common shareholders per share, diluted	$ (7.54)	$ (2.46)	$ 0.15
Weighted average shares outstanding, basic	5,661,741	5,667,557	54,305,354
Weighted average shares outstanding, diluted	5,661,741	5,667,557	56,150,996

Liquidity and capital resources

Sources of liquidity

We have incurred losses from operations since our inception in 1998 and as of September 30, 2013, we had an accumulated deficit of $364.2 million. From our inception through September 30, 2013, we have funded our operations principally with the proceeds received from the sale of $509.5 million of our preferred stock, net proceeds from our initial public offering in August 2013 of $168.3 million and the receipt of $12.5 million in prepayments of services by our collaborators. As of September 30, 2013, we had cash and cash equivalents of $61.2 million and short-term and long-term investments of $217.8 million. Cash in excess of immediate requirements is invested primarily in money market funds, certificates of deposits, U.S. government debt securities and commercial paper in order to maintain liquidity and capital preservation.

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Cash flows

The following table sets forth the significant sources and uses of cash for the periods set forth below:

	Nine months ended, September 30,		Years ended, December 31,	
	2013	2012	2012	2011
	(unaudited)		(In thousands)	
Net cash provided by (used in):				
Operating activities	$ (43,459)	$ (49,195)	$ (61,529)	$ (81,758)
Investing activities	(221,704)	(17,097)	(23,636)	(64,097)
Financing activities	315,979	50,745	75,940	148,111
Effect of exchange rate changes on cash and cash equivalents	3			
Net increase (decrease) in cash and cash equivalents	$ 50,819	$ (15,547)	$ (9,225)	$ 2,256

Cash flows from operating activities:

Net cash used in operating activities was $43.5 million for the nine months ended September 30, 2013 compared to $49.2 million for the nine months ended September 30, 2012. Net cash used in operating activities during the nine months ended September 30, 2013 was primarily comprised of our $27.9 million net loss and noncash items which primarily included (i) our unrealized appreciation on equity securities of $5.7 million and (ii) our $7.4 million gain on our previously held equity interest in AquaBounty. Net cash used in operating activities during the nine months ended September 30, 2012 was primarily composed of (i) our $50.9 million net loss inclusive of unrealized appreciation on equity securities of $12.0 million and (ii) the receipt of $10.0 million from one of our collaborators for a prepayment of research and development services.

Net cash used in operating activities was $61.5 million for the year ended December 31, 2012 compared to $81.8 million for the year ended December 31, 2011. The change from 2011 to 2012 is primarily the result of the receipt of $12.5 million from two of our collaborators for prepayments of research and development services in conjunction with our ECCs of which $7.2 million remains in deferred revenue. Deferred revenue also increased as a result of upfront and milestone payments received in the form of the collaborators securities in 2012 in conjunction with new and existing ECCs. Non-cash charges such as depreciation and amortization, unrealized depreciation on equity securities and non-cash compensation expense for our non-compensated Chief Executive Officer increased in 2012 compared to 2011.

Cash flows from investing activities:

Net cash used in investing activities was $221.7 million for the nine months ended September 30, 2013 compared to $17.1 million for the nine months ended September 30, 2012. During the nine months ended September 30, 2013, we invested cash received from our Series F financing and our IPO and in excess of our immediate requirements to purchase $233.2 million of U.S. government debt securities, commercial paper and certificates of deposit and also used $3.9 million to purchase shares of common stock of Oragenics. These cash outflows were offset by $15.5 million

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received upon the maturation of short-term investments. During the nine months ended September 30, 2012, we paid $10.0 million to purchase shares of common stock of ZIOPHARM and we paid $7.1 million for property and equipment purchases primarily to expand certain of our lab facilities.

Net cash used in investing activities was $23.6 million for the year ended December 31, 2012 compared to $64.1 million for the year ended December 31, 2011. In 2011, we used $28.7 million, net of cash received, to pay for the acquisitions of four businesses; we paid $22.6 million to purchase shares of common stock of ZIOPHARM; and we used $13.0 million for property and equipment purchases primarily to scale up our DNA manufacturing capacity. In 2012, we used $6.0 million to purchase a 47.56 percent interest in AquaBounty; we paid $10.0 million to purchase additional shares of common stock of ZIOPHARM; and we paid $7.5 million for property and equipment used in our DNA manufacturing operations and lab equipment for use in our agricultural and industrial operations.

Cash flows from financing activities:

Net cash provided by financing activities was $316.0 million for the nine months ended September 30, 2013 compared to $50.7 million for the nine months ended June, 2012. During the nine months ended September 30, 2013, we received $146.9 million of net proceeds from the sale of our Series F Preferred Stock and $168.8 million of net proceeds from our IPO. During the nine months ended September 30, 2012, we received $50.6 million of net proceeds from the sale of our Series E Redeemable Convertible Preferred Stock.

Net cash provided by financing activities was $75.9 million for the year ended December 31, 2012 compared to $148.1 million for the year ended December 31, 2011. In 2011, we received $26.4 million of proceeds from the issuance of our Series D Preferred Stock, $99.2 million of proceeds, net of issuance costs, from the issuance of our Series E Preferred Stock, proceeds from the issuance of short-term borrowings, which, along with accrued interest, converted into $15.2 million of Series E Preferred Stock and $7.4 million of subscriptions for our Series E Preferred Stock. In 2012, we received $75.5 million of proceeds, net of issuance costs, from the issuance of our Series E Preferred Stock.

Future capital requirements

We established our current strategy and business model of commercializing our technologies through collaborators with development expertise in 2010 and we consummated our first ECC in January 2011. Through September 30, 2013 we received from our ECCs (i) upfront and milestone consideration totaling $79.4 million, of which $65.8 million has been deferred and will be recognized over future periods; and (ii) reimbursement of our costs incurred for work performed on behalf of our collaborators of $21.8 million. We believe that we will continue to consummate ECCs with new companies across our various market sectors, which will result in additional upfront, milestone and cost recovery payments in the future.

We believe that our existing cash and cash equivalents and short-term and long-term investments and cash expected to be received through our current collaborators will enable us to fund our operating expenses and capital expenditure requirements for at least the next 12 months.

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We have based our estimates on assumptions that may prove to be wrong, and we may use our available capital resources sooner than we currently expect. Our future capital requirements will depend on many factors, including:

- progress in our research and development programs, as well as the magnitude of these programs;
- the timing, receipt and amount of upfront, milestone and other payments, if any, from present and future collaborators, if any;
- the timing, receipt and amount of sales and royalties, if any, from our potential products;
- the timing, receipt and amount of funding under future government contracts, if any;
- our ability to maintain and establish additional collaborative arrangements and/or new business initiatives;
- the timing of regulatory approval of AquaBounty products;
- the resources, time and cost required for the preparation, filing, prosecution, maintenance and enforcement of patent claims;
- the costs associated with legal activities, including litigation, arising in the course of our business activities and our ability to prevail in any such legal disputes; and
- the timing and extent of our obligation to participate in up to $19.0 million in equity financings of ZIOPHARM.

Until such time, if ever, as we can generate positive operating cash flows, we may finance our cash needs through a combination of equity offerings, debt financings, government or other third-party funding, strategic alliances and licensing arrangements. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interests of our common shareholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of our common shareholders. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through government or other third-party funding, marketing and distribution arrangements or other collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or to grant licenses on terms that may not be favorable to us.

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Contractual obligations and commitments

The following table summarizes our significant contractual obligations and commercial commitments at December 31, 2012 and the effects such obligations are expected to have on our liquidity and cash flows in future periods:

	Total(3)(4)	Less than 1 year	1-3 years	3-5 years	More than 5 years
			(In thousands)		
Operating Leases(1)(2)	$ 11,097	$ 2,825	$ 5,410	$ 2,790	$ 72
Capital Leases	99	54	45		
License Payments	1,000	1,000			
Total	$ 12,196	$ 3,879	$ 5,455	$ 2,790	$ 72

(1) We lease our facilities and certain equipment under noncancelable operating leases.

(2) On July 17, 2013, we entered into a sublease for administrative offices. The lease term begins on August 1, 2013 and terminates on December 31, 2017. The aggregate rent payments for the term of the sublease are $1.9 million and are excluded from the table above. On October 1, 2013, we renewed the lease on our San Diego facility for three years at a total cost of $1.2 million, which is excluded from the table above.

(3) In conjunction with the formation of a joint venture with a subsidiary of Sun Pharmaceutical Industries Ltd., or Sun Pharmaceutical Subsidiary, in September 2013, we committed to make future capital contributions to the joint venture in order to comply with the obligation of the joint venture. We made a capital contribution in the amount of $5.0 million in October 2013. In cases in which the board of managers of the joint venture determines that additional capital contributions are necessary, we have committed to making additional capital contributions subject to certain limitations. No amounts related to this capital contribution are included in the table above.

(4) In conjunction with the formation of a joint venture with OvaScience, Inc., or OvaScience, in December 2013, we committed to make an initial capital contribution to the joint venture in the amount of $1.5 million, which was paid in January 2014. In cases in which the board of the joint venture determines that additional capital contributions are necessary, we have the option of making additional capital contributions subject to certain limitations. No amounts related to this transaction are included in the table above.

In addition to the obligations in the table above, as of December 31, 2012 we also have the following significant contractual obligations described below.

In conjunction with our ECC with ZIOPHARM in 2011, we agreed to purchase up to $50.0 million of ZIOPHARM common stock in conjunction with securities offerings that may be conducted by ZIOPHARM in the future, subject to certain conditions and limitations. We purchased $10.0 million and $11.0 million in 2012 and 2011, respectively, of ZIOPHARM common stock in such securities offerings. The remaining obligation on this purchase commitment is approximately $29.0 million at December 31, 2012. This amount is not included in the table above due to the fact that the timing of such securities purchases cannot be predicted. On October 29, 2013, we purchased an additional $10.0 million in ZIOPHARM securities reducing our future obligation to $19.0 million.

In June 2011, we entered into an exclusive licensing agreement with Halozyme for the use of Halozyme s proprietary enzyme in one of our targeted therapeutics. We are related parties with Halozyme through common ownership by Third Security, LLC. Under the terms of this agreement, we are required to pay a non-refundable, annual exclusivity fee of $1.0 million on each anniversary of the agreement effective date until a certain development event occurs. The agreement requires us to pay up to $54.0 million of milestone payments upon the achievement of certain regulatory events. We are obligated to pay tiered royalties on net sales of an approved product developed with Halozyme s proprietary enzyme. We may terminate this agreement in whole or on a product-by-product basis at any time upon 90 days prior written notice to Halozyme. Only the $1.0 million payment which was due and paid on June 6, 2013 is included in

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the table above. All other contingent payments related to this agreement are not included in the table above due to uncertainties surrounding the number of annual payments that will be required and the unpredictability of the timing and likelihood of achieving the milestones.

We acquired 100 percent of the outstanding capital stock of Immunologix in October 2011. The transaction included a contingent consideration arrangement which may require us to pay the selling shareholders 50 percent, subject to a maximum of $2.0 million, of revenue generated from Immunologix s technology applied towards a specific target as defined in the agreement up to a maximum of $2.0 million. This amount is not included in the table above due to the uncertainty of whether, if ever, we will pay this contingent consideration.

In conjunction with our ECC with Oragenics, we have the right, but not the obligation, to purchase up to 30 percent of securities offerings that may be conducted by Oragenics in the future, subject to certain conditions and limitations.

In March 2012, we received $10.0 million from ZIOPHARM as a prepayment of research and development services to be provided in conjunction with our ECC. Any remaining balance of this prepayment is refundable to ZIOPHARM in the event the ECC is terminated. ZIOPHARM may voluntarily terminate the ECC upon 90 days written notice to us. The remaining balance of this prepayment is $4.9 million at December 31, 2012 and is not included in the table above due to the uncertainty of the timing of the provision of these services by us and the unlikely termination of this ECC by either party.

In December 2012, we received $2.5 million from Synthetic Biologics as prepayment of research and development services to be provided to Synthetic Biologics. Any remaining balance of this prepayment is refundable to Synthetic Biologics in the event our August 2012 ECC is terminated. Synthetic Biologics may voluntarily terminate the ECC upon 90 days written notice to us provided that no voluntary termination by Synthetic Biologics can be made during the first 18 months of the ECC. The remaining balance of this prepayment is $2.4 million at December 31, 2012 and is not included in the table above due to the uncertainty of the timing of the provision of these services by us and the unlikely termination of the ECC by either party.

We are also party to in-licensed research and development agreements with various academic and commercial institutions where we could be required to make future payments for annual maintenance fees as well as for milestones and royalties we might receive upon commercial sales of products which incorporate their technologies. These agreements are generally subject to termination by us and therefore no amounts are included in the tables above. At December 31, 2012, we had research and development commitments with third parties totaling $3.2 million of which $1.4 had not yet been incurred.

In January 2009, AquaBounty was awarded a grant to provide funding of a research and development project from the Atlantic Canada Opportunities Agency, a Canadian government agency. The total amount available under the award is C$2.9 million, or USD$2.8 million as of September 30, 2013, which AquaBounty can claim over a five year period. All amounts claimed by AquaBounty must be repaid in the form of a 10 percent royalty on any products commercialized out of this research and development project until fully paid. As of September 30, 2013, the total amount claimed by AquaBounty was $2.3 million and is included in long term debt in the September 30, 2013 unaudited consolidated balance sheet. This amount is not included in the table above due to the uncertainty of the timing of repayment. AquaBounty has $0.2 million of additional debt instruments that mature between December 2013 and June 2014.

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Net operating losses

As of September 30, 2013, we had net operating loss carryforwards of approximately $235.1 million for U.S. federal income tax purposes available to offset future taxable income and U.S. federal and state research and development tax credits of $6.6 million, prior to consideration of annual limitations that may be imposed under Section 382 of the Internal Revenue Code of 1986, as amended, or Section 382. These carryforwards begin to expire in 2022.

Our past issuances of stock and mergers and acquisitions have resulted in ownership changes within the meaning of Section 382. As a result, the utilization of portions of our net operating losses may be subject to annual limitations. As of September 30, 2013, approximately $16.4 million of our net operating losses generated prior to 2008 are limited by Section 382 to annual usage limits of approximately $1.5 million. As of September 30, 2013, approximately $14.8 million of net operating losses were inherited via acquisition and are limited based on the value of the target at the time of the transaction. Future changes in stock ownership may also trigger an ownership change and, consequently, a Section 382 limitation.

Off-balance sheet arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements, other than operating leases as mentioned above, as defined under Securities and Exchange Commission, or SEC, rules.

Quantitative and qualitative disclosure about market risk

The following sections provide quantitative information on our exposure to interest rate risk, stock price risk, and foreign currency exchange risk. We make use of sensitivity analyses which are inherently limited in estimating actual losses in fair value that can occur from changes in market conditions.

Interest rate risk

We had cash, cash equivalents and short-term and long-term investments of $279.0 million and $10.7 million at September 30, 2013 and December 31, 2012, respectively. Our cash and cash equivalents and short-term investments consist of cash, money market funds, U.S. government debt securities, commercial paper and certificates of deposit. The primary objective of our investment activities is to preserve principal, maintain liquidity and maximize income without significantly increasing risk. Our investments consist of U.S. government debt securities, commercial paper and certificates of deposit which may be subject to market risk due to changes in prevailing interest rates that may cause the fair values of our investments to fluctuate. We believe that a hypothetical 100 basis point increase in interest rates would not materially affect the fair value of our interest-sensitive financial instruments and any such losses would only be realized if we sold the investments prior to maturity.

Investments in publicly traded companies

We have common stock investments in several publicly traded companies that are subject to market price volatility. We have adopted the fair value method of accounting for these investments, except for our investment in AquaBounty as further described below, and therefore,

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have recorded them at fair value at the end of each reporting period with the unrealized gain or loss recorded as a separate component of other income (expense), net for the period. As of September 30, 2013 and December 31, 2012 the original aggregate cost basis of these investments was $110.8 million and $92.1 million, respectively, and the market value was $107.6 million and $83.1 million, respectively. The fair value of these investments is subject to fluctuation in the future due to the volatility of the stock market, changes in general economic conditions and changes in the financial conditions of these companies. The fair value of these investments as of September 30, 2013 would be approximately $118.4 million and $86.1 million, respectively, based on a hypothetical 10 percent increase or 20 percent decrease in the value of the investments. The fair value of these investments as of December 31, 2012 would be approximately $91.0 million and $66.0 million, respectively, based on a hypothetical 10 percent increase or 20 percent decrease in the value of the investments.

In November 2012, we acquired 47.56 percent of the outstanding common stock of AquaBounty and we accounted for this investment under the equity method of accounting for the period from acquisition date through March 15, 2013. On March 15, 2013, we acquired 18,714,814 additional shares of AquaBounty common stock for $4.9 million, thereby increasing our aggregate ownership to 53.82 percent upon closing. Accordingly, effective upon closing of the acquisition of the additional shares, we consolidated the assets and operating results of AquaBounty in our consolidated financial statements. The common stock of AquaBounty is traded on the London Stock Exchange and the fair value of our investment in AquaBounty at September 30, 2013 and December 31, 2012 was $26.1 million and $14.3 million, respectively. The fair value of our investment in AquaBounty as of September 30, 2013 would be approximately $28.7 million and $20.9 million, respectively, based on a hypothetical 10 percent increase or 20 percent decrease in the share price of AquaBounty. The fair value of our investment in AquaBounty as of December 31, 2012 would be approximately $15.7 million and $11.4 million, respectively, based on a hypothetical 10 percent increase or 20 percent decrease in the share price of AquaBounty.

Foreign currency exchange risk

Because the common stock of AquaBounty is traded on the London Stock Exchange, the fair value of our holdings is subject to fluctuations in foreign currency rates. In addition, some of AquaBounty s current expenses are denominated in Canadian dollars. We do not hedge our foreign currency exchange rate risk. The effect of a hypothetical 10 percent change in foreign currency exchange rates applicable to our business would not have a material impact on our consolidated financial statements.

Critical accounting policies and estimates

Our management s discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements, which we have prepared in accordance with generally accepted accounting principles in the United States, or U.S. GAAP. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenues and expenses during the reporting periods. We evaluate these estimates and judgments on an ongoing basis. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments

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about the carrying value of assets and liabilities that are not readily apparent from other sources. Our actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are more fully described in Note 2 to our consolidated financial statements appearing elsewhere in this prospectus, we believe that the following accounting policies are the most critical for fully understanding and evaluating our financial condition and results of operations.

Revenue recognition

Our ECCs typically contain multiple elements, or deliverables, including technology licenses, research and development services, and in certain cases manufacturing services. Our ECCs may provide for various types of payments to us including upfront payments or technology access fees, funding of research and development and/or manufacturing services, milestone payments, profit sharing and royalties on product sales. Effective January 1, 2011, we adopted the provisions of Accounting Standards Update, or ASU, No. 2009-13, *Revenue Recognition (Topic 605): Multiple Deliverable Revenue Arrangements*, or ASU 2009-13. In accordance with the provisions of ASU 2009-13, we identify the deliverables within the ECCs and evaluate which deliverables represent separate units of accounting. Analyzing the ECCs to identify deliverables requires the use of judgment. A deliverable is considered a separate unit of accounting when the deliverable has value to the collaborator on a standalone basis based on the consideration of the relevant facts and circumstances for each ECC.

Consideration received is allocated at the inception of the ECC to all identified units of accounting based on their relative selling price. When available, the relative selling price for each deliverable is determined using vendor specific objective evidence, or VSOE, of selling price or third-party evidence of selling price, if VSOE does not exist. If neither VSOE nor third-party evidence of selling price exists, we use our best estimate of the selling price for the deliverable. The amount of allocable consideration is limited to amounts that are fixed or determinable. The consideration received is allocated among the separate units of accounting, and the applicable revenue recognition criteria are applied to each of the separate units. We recognize the revenue allocated to each unit of accounting as we deliver the related goods or services. If we determine that we should treat certain deliverables as a single unit of accounting, then we recognize the revenue using either a proportional performance or straight-line method, depending on whether we can reasonably estimate the level of effort required to complete our performance obligations under an arrangement and whether such performance obligations are provided on a best-efforts basis. As we cannot reasonably estimate our performance obligations related to our collaborations, we recognize revenue on a straight-line basis over the period we expect to complete our performance obligations.

Typically, we must estimate our period of performance when the ECCs we enter into do not clearly define such information. Our estimated period of performance for our ECCs has been the expected life of our technologies based on the lack of significant experience we have with these types of agreements and the possibility for multiple products and/or treatments for each ECC s defined field of use.

Our ECCs typically provide for milestone payments upon achievement of specified development, regulatory and commercial activities. Effective January 1, 2011, we adopted ASU No. 2010-17, *Revenue Recognition Milestone Method*, or the Milestone Method. Under the Milestone

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Method, we recognize consideration that is contingent upon the achievement of a milestone in its entirety as revenue in the period in which the milestone is achieved only if the milestone is substantive in its entirety. A milestone is considered substantive when it meets all of the following criteria:

The consideration is commensurate with either the entity s performance to achieve the milestone or the enhancement of the value of the delivered item or items as a result of a specific outcome resulting from the entity s performance to achieve the milestone;

The consideration relates solely to past performance; and

The consideration is reasonable relative to all of the deliverables and payment terms with the arrangement.

In the event that a milestone is not considered substantive, we recognize the milestone consideration as revenue using the same method applied to the upfront payments.

Research and development services are a deliverable satisfied by us in accordance with the terms of the ECCs and we consider these services to be inseparable from the license to the core technology; thus reimbursements of services provided are recognized as revenue. Further, because reimbursement (i) is contingent upon performance of the services by us, (ii) does not include a profit component and (iii) does not relate to any future deliverable, the revenue is recognized during the period in which the related services are performed and collection of such amounts is reasonably assured. Payments received for manufacturing services will be recognized when the process related to the manufactured materials has been completed. Royalties to be received under our ECCs will be recognized as earned.

We recognized $6.0 million and $2.9 million of collaboration revenues in the three months ended September 30, 2013 and 2012, respectively, $16.6 million and $7.2 million in the nine months ended September 30, 2013 and 2012, respectively, and $13.7 million and $5.1 million in the years ended December 31, 2012 and 2011, respectively. As of September 30, 2013 and December 31, 2012, we have $65.8 million and $51.4 million, respectively, of deferred revenue related to our receipt of upfront and milestone payments.

We also generate revenue from other licenses of certain technologies and rental and other income from sublease agreements. License revenue is recognized on a straight-line basis over the term of the license agreement. Deferred revenue is recorded on the consolidated balance sheet when cash is received prior to the period in which the revenue is earned. Sublease and laboratory services revenues are recognized in the period in which they are earned.

Valuation of investments in equity securities

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset and liability. We use a three-tier fair value hierarchy to prioritize the inputs used in our fair value measurements. These tiers include: Level 1, defined as observable inputs such as quoted prices in active markets for identical assets, which includes our cash equivalents, short-term investments and certain investments in equity securities of our publicly held collaborators; Level 2, defined as inputs other than quoted prices included in Level 1 that are observable for the asset or liability either directly or indirectly, which includes certain

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investments in equity securities of our publicly held collaborators; and Level 3, defined as unobservable inputs for the asset or liability used to measure fair value to the extent that observable inputs are not available.

We have equity securities in publicly held companies that we have received and/or purchased from certain collaborators. For each collaborator where we own equity securities, we make an accounting policy election to present them either (i) at the fair value at the end of each reporting period or (ii) using the cost or equity method depending on our level of influence. We have elected to account for certain of these equity securities in publicly held collaborators using the fair value option. These equity securities in publicly held collaborators are recorded at fair value at each reporting date. Unrealized gains and losses resulting from fair value adjustments are reported as other income (expense) in the consolidated statement of operations. As of September 30, 2013 and December 31, 2012, our equity securities received from collaborators are valued at $107.6 million and $83.1 million, respectively.

We record the fair value of securities received on the date the collaboration is consummated or the milestone is achieved upon the closing, quoted price of the collaborator s security on that date, assuming the transfer of the consideration is considered perfunctory. If the transfer of the consideration is not considered perfunctory, we consider the specific facts and circumstances to determine the appropriate date on which to evaluate fair value. We also evaluate whether any discounts for trading restrictions or other basis for lack of marketability should be applied to the fair value of the securities at inception of the collaboration. In the event we conclude that a discount should be applied, the fair value of the securities is adjusted at inception of the collaboration and re-evaluated at each reporting period thereafter.

We account for investments in which we have the ability to exercise significant influence over, but not control, the operating activities of the investee using the equity method or election of the fair value option. If the fair value option is elected, the investment is accounted for as described for equity securities above. We elected the fair value option to account for our investment in ZIOPHARM. Under the equity method, we include our pro-rata share of the investee s operating results, adjusted for accretion of basis difference, in our consolidated statement of operations with the corresponding increase or decrease applied to the carrying value of the investment. The excess cost over our pro-rata share of the investee s net assets is equity-method goodwill. This equity-method goodwill is not amortized; however, the investment is analyzed for impairment on a periodic basis or if an event occurs or circumstances change that indicates the carrying amount may be impaired. The carrying value of our equity method investment in AquaBounty is $5.7 million at December 31, 2012. On March 15, 2013, we acquired 18,714,814 additional shares of AquaBounty increasing our ownership in AquaBounty to 53.82 percent, resulting in us gaining control over AquaBounty. As such AquaBounty was consolidated on our results of operations and financial position beginning on March 15, 2013. We account for our investment in S & I Ophthalmic, LLC, or S & I Ophthalmic, our joint venture with Sun Pharmaceutical Subsidiary, using the equity method of accounting. The carrying value of our equity method investment in S & I Ophthalmic is $5.0 million at September 30, 2013.

Valuation allowance for net deferred tax assets

We record a valuation allowance to offset any net deferred tax assets if, based upon the available evidence, it is more likely than not that we will not recognize some or all of the deferred tax assets. We have had a history of net losses since inception, and as a result, we have established a 100 percent valuation allowance for our net deferred tax assets. If circumstances

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change and we determine that we will able to realize some or all of these net deferred tax assets in the future, we will record an adjustment to the valuation allowance.

Consolidation of variable interest entities

We identify entities as variable interest entities, or VIEs, either: (i) that do not have sufficient equity investment at risk to permit the entity to finance its activities without additional subordinated financial support, or (ii) in which the equity investors lack an essential characteristic of a controlling financial interest. We perform an initial and on-going evaluation of the entities with which we have variable interests to determine if any of these entities are VIEs. If an entity is identified as a VIE, we perform an assessment to determine whether we have both: (i) the power to direct activities of the VIE that most significantly impact the VIE s economic performance, and (ii) have the obligation to absorb losses from or the right to receive benefits of the VIE that could potentially be significant to the VIE. If we have both these criterion, we are identified as the primary beneficiary of the VIE. As of September 30, 2013, two of our collaborators, AmpliPhi BioSciences Corp. and Genopaver, LLC, were identified as VIEs. We are not the primary beneficiary for either of these entities as we do not have the power to direct the activities that most significantly impact the economic performance of the VIEs. As of December 31, 2012, we identified AquaBounty, our investment in an affiliate, as a VIE. We were not the primary beneficiary for this entity as we did not have the power to direct the activities that most significantly impact the economic performance of the VIE. On March 15, 2013, we began consolidating AquaBounty on our results of operations and financial position as a result of our ownership in AquaBounty increasing to 53.82 percent.

Valuation of long-lived assets

We evaluate long-lived assets, which include property and equipment and intangible assets, for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable. Conditions that would necessitate an impairment assessment include a significant decline in the observable market value of an asset, a significant change in the extent or manner an asset is used, or a significant adverse change that would indicate that the carrying amount of an asset or group of assets is not recoverable.

Indefinite-lived intangible assets, which include in-process research and development, are tested for impairment annually, or more frequently if events or circumstances between annual tests indicate that the assets may be impaired. Impairment losses on indefinite-lived intangible assets are recognized based solely on a comparison of their fair value to carrying value, without consideration of any recoverability test. We monitor the progression of our in-process research and development, as the likelihood of success is contingent upon regulatory approval.

Stock-based compensation

We record the fair value of stock options issued to employees and non-employees as of the grant date as stock-based compensation expense. Stock-based compensation expense for employees and non-employees is recognized over the requisite service period, which is typically the vesting period. Stock-based compensation expense recorded as research and development expenses and general and administrative expenses amounted to $0.1 million and $0.6 million, respectively, for the three months ended September 30, 2013, $0.2 million each for the three months ended September 30, 2012, $0.4 million and $1.4 million, respectively, for the nine months ended September 30, 2013, $0.3 and $0.7 million, respectively, for the nine months ended September 30, 2012, $0.4 million and

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$1.1 million, respectively, for the year ended December 31, 2012, and $0.8 million and $0.2 million, respectively, for the year ended December 31, 2011. We utilize the Black-Scholes option-pricing model to estimate the grant-date fair value of all stock options. The Black-Scholes option-pricing model requires the use of weighted average assumptions for estimated expected volatility, estimated expected term of stock options, risk-free rate, estimated expected dividend yield, and the fair value of the underlying common stock at the date of grant. Because we do not have sufficient history to estimate the expected volatility of our common stock price, expected volatility is based on the average volatility of peer public entities that are similar in size and industry. We estimate the expected term of all stock options based on previous history of exercises. The risk-free rate is based on the U.S. Treasury yield curve in effect at the time of grant for the expected term of the stock option. The expected dividend yield is 0 percent as we have not declared any common stock dividends to date and do not expect to declare common stock dividends in the near future. The fair value of the underlying common stock at the date of grant is discussed below. We estimate forfeitures based on our historical analysis of actual stock option forfeitures. Actual forfeitures are recorded when incurred and estimated forfeitures are reviewed and adjusted at least annually. The assumptions used in the Black-Scholes option-pricing model for the years ended December 31, 2012 and 2011 are set forth below:

	Years ended December 31,	
	2012	2011
Valuation Assumptions		
Expected dividend yield	0%	0%
Expected volatility	71% - 76%	68% - 72%
Expected term (years)	6.00	5.37 - 6.23
Risk-free interest rate	0.80% - 1.10%	1.34% - 2.51%

We had 2,697,617 options outstanding as of September 30, 2013 of which 992,112 were exercisable. We had 2,313,526 options outstanding as of December 31, 2012 of which 808,633 were exercisable. Total unrecognized stock-based compensation expense related to non-vested awards at September 30, 2013 and December 31, 2012 was $5.5 million and $4.9 million, respectively, and is expected to be recognized over a weighted-average period of approximately three years. The weighted average grant date fair value for options granted in 2012 was $4.60.

Common stock valuations

Due to the absence of an active market for our common stock prior to our initial public offering, the fair value of our common stock was determined in good faith by our board of directors, with the assistance and upon the recommendation of management, based on a number of objective and subjective factors consistent with the methodologies outlined in the American Institute of Certified Public Accountants Practice Aid, Valuation of Privately-Held-Company Equity Securities Issued as Compensation, referred to as the AICPA Practice Aid, including:

- the shares of common stock involved illiquid securities in a private company;
- the prices of each of our series of preferred stock sold by us to outside investors at arm s length transactions and the rights, preferences and privileges of each of these series of preferred stock relative to our common stock;
- our consolidated results of operations, financial position and the status of our research and development efforts;

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the composition of our management team and board of directors;

the material risks related to our business;

our business strategy;

our entry into ECCs as contemplated by our business strategy;

the market performance of publicly traded companies in the life sciences and biotechnology sectors;

the likelihood of achieving a liquidity event for the holders of our shares of common stock, such as a sale of the company or an initial public offering given prevailing market conditions;

external market conditions affecting the life sciences and biotechnology industry sectors; and

contemporaneous valuations of our shares of common stock.

We have engaged independent third-party valuation consultants to perform contemporaneous valuations of our common stock since 2007. We typically evaluate the valuation of our common stock upon the closing of a series of preferred financing round and also upon the occurrence of significant events affecting us or our achievement of significant milestones, to the extent that they are not contemplated in the enterprise valuation prepared in conjunction with a series of preferred stock financing.

The following table presents the issuance of each series of preferred stock financing and stock options granted from May 27, 2011 through August 12, 2013, as well as the estimated fair value of the options and the underlying common stock on the grant date. All common shares and per share amounts in the table below reflect our 1-for-1.75 reverse stock split effective on July 26, 2013 and all preferred shares and per share amounts are convertible into shares of our common stock on a 1-for-1.75 basis upon completion of this offering.

Preferred shares			**Stock options**		
Date of issuance	**Shares issued**	**Price per share**	**Date of grant**	**Options issued**	**Estimated fair value per common share at grant date**
May 26, 2011	19,047,619 shares of Series E Preferred Stock	$ 5.25	May 27, 2011-January 10, 2012	1,983,857	$ 7.12
January 10, 2012	9,523,810 shares of Series E Preferred Stock	$ 5.25	January 11, 2012-April 12, 2012	198,000	$ 7.12
April 12, 2012	4,761,905 shares of Series E Preferred Stock	$ 5.25	April 13, 2012-November 13, 2012	254,571	$ 7.12
November 13, 2012	4,761,905 shares of Series E Preferred Stock	$ 5.25	November 14, 2012-March 1, 2013	1,714	$ 7.12
March 1, 2013 and April 30, 2013	19,047,619 shares of Series F Preferred Stock	$ 7.88	May 28, 2013-August 12, 2013	702,571	$ 9.67

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Stock options granted from May 27, 2011 through January 10, 2012

On May 26, 2011, we sold $100.0 million of Series E Preferred Stock. A majority of the shares of Series E Preferred Stock were sold to new unrelated third party investors, at a price per share of $5.25. During the period from May 27, 2011 through January 10, 2012, we issued to new employees 1,983,857 options to purchase shares of our common stock at a price of $7.12 per share. In establishing the price per share of common stock of $7.12, we considered the factors above as well as the May 26, 2011 contemporaneous valuation of our common stock.

In the May 26, 2011 contemporaneous valuation, the fair value of our common stock of $7.12 was established using the Probability-Weighted Expected Return Method, or PWERM, pursuant to which the value of an enterprise s common stock is estimated based upon an analysis of current and future values for the enterprise assuming possible liquidity events. The PWERM approach employs various market approach and income approach calculations depending upon the likelihood of a given liquidation scenario and considers the terms of each series of preferred stock, including the rights for each share class, at the date in the future upon which those rights will either be executed or abandoned. Application of the PWERM includes:

- for each liquidity event, enterprise value or range of values is established based on available company-specific and market data;
- for each liquidity event, the rights and preferences of each shareholder class are considered in order to determine the appropriate allocation of value between the classes;
- for calculating the potential value for each liquidity event, the return is discounted to present value using an appropriate discount rate;
- a probability is estimated for each liquidity event based on the facts and circumstances as of the valuation date; and
- the returns for each liquidity event are weighted by the probability assigned and summed to conclude the expected return for the common stock.

For the May 26, 2011 valuation, we calculated values under each scenario based on the assumptions and methodology as follows:

Near-Term Initial Public Offering:

- Assumed a 40 percent probability of closing of an initial public offering by mid-2012 at an enterprise value substantially greater than the post-closing enterprise value of our most recent Series E Preferred Stock sale. Our estimate of enterprise value was based on our anticipated capital structure and consideration of recent initial public offering pricing data at that time. We believe this was appropriate because we had just executed our first ECC with ZIOPHARM in January 2011 under our new ECC business model and believed that we would sign additional ECCs across our target markets during 2011; and
- Applied a discount rate of 12 percent.

Long-Term Initial Public Offering:

- Assumed a 16 percent probability of closing an initial public offering by mid-2013 at an enterprise value substantially greater than the post-closing enterprise value of our most recent Series E Preferred Stock sale. Our estimate of enterprise value was based on our anticipated

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capital structure and consideration of recent initial public offering pricing data at that time. We assumed that we would sign additional ECCs across our target markets by the end of 2012 and would require us to raise additional financing to execute on our ECC business model; and

Applied a discount rate of 12 percent.

Remain as a Private Company:

Assumed a 38 percent probability of remaining as a private company. We assumed that we would need to raise additional capital in 2012 in order to continue to execute on our ECC business model, however, even with the additional financing we would be unsuccessful in sufficiently executing our ECC business model to achieve a valuation in excess of the aggregate liquidation preference of the preferred stock. This results in zero value afforded to the holders of common stock.

Liquidation:

Assumed a 6 percent probability of a liquidation scenario occurring by mid-2012. We assumed under this scenario that we could not execute on our business model using the proceeds from the Series E Preferred Stock offering nor raise additional capital and would therefore liquidate in 2012. Because of the preferences afforded to the holders of preferred stock, liquidation would result in zero value afforded to the holders of common stock.

We then applied the probabilities of each liquidity scenario to their respective price per share of common stock to arrive at a value per share of $7.12.

We believed each of these weightings to be appropriate in light of the current status of and risks associated with the market and our company, including the execution of our initial ECC with ZIOPHARM, our deal pipeline, the development of our technologies, our available cash and anticipated future cash requirements.

On January 10, 2012, we completed the sale of an additional $50.0 million of Series E Preferred Stock, at a price per share of $5.25. We determined that the events and circumstances that occurred between May 26, 2011 and January 10, 2012 did not indicate a significant change in the value of common stock during this period. We considered the following events that occurred during this period:

the issuance of additional Series E Preferred Stock at the same price and with the same rights and preferences as the original issuance of Series E Preferred Stock on May 26, 2011. The original issuance of the Series E Preferred Stock implied a value per share of our common stock of $7.12;

the acquisition of certain assets required to operate the cell processing business of Cyntellect on August 31, 2011;

the acquisition of technology for the development of high value production cells lines from GT Life on October 5, 2011;

the acquisition of a therapeutic antibody platform technology from Immunologix on October 21, 2011;

the execution of an ECC with Synthetic Biologics; and

the execution of an ECC with Elanco, the animal health division of Eli Lilly and Company.

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Each of the three acquisitions was for technologies we believe are complementary to our technologies, however we did not acquire any existing or imminent revenue streams as part of those transactions. Execution of the ECCs represented the second and third such ECCs by us as contemplated in our operating plan for 2011.

Stock options granted from January 11, 2012 through April 12, 2012

On April 12, 2012, we completed the sale of an additional $25.0 million of Series E Preferred Stock, at a price per share of $5.25. During the period from January 11, 2012 through April 12, 2012, we issued to new employees 198,000 options to purchase shares of common stock at a price of $7.12 per share. Based on the lack of intervening events during this period and the fact that we issued additional shares of Series E Preferred Stock at the same price and on the same terms as prior issuances, we determined there was no basis for a significant change in the value of common stock during this period.

Stock options granted from April 13, 2012 through November 13, 2012

On November 13, 2012, we completed the sale of an additional $25.0 million of Series E Preferred Stock, at a price per share of $5.25. During the period from April 13, 2012 through November 13, 2012, we issued to new employees 254,571 options to purchase shares of common stock at a price of $7.12 per share. We determined that the events and circumstances which occurred during this period did not indicate a significant change in the value of common stock. We considered the following events that occurred during this period:

- the issuance of additional Series E Preferred Stock at the same price and with the same rights and preferences as the prior issuances of Series E Preferred Stock, which implied a value per share of our common stock of $7.12;
- execution of an ECC with Oragenics, Inc., in June 2012;
- execution of our second ECC with Synthetic Biologics, Inc., in August 2012;
- execution of an ECC with Fibrocell Science, Inc, in October 2012; and
- initiation of a Phase 2 clinical trial using our technologies by ZIOPHARM, Inc., thereby triggering our receipt of $18.3 million of additional consideration pursuant to our ECC with them, in October 2012.

The execution of the three ECCs during this time period was originally contemplated when setting the original price per share of our Series E Preferred Stock in May 2011. We believe that the initiation of the Phase 2 clinical trial with ZIOPHARM may have resulted in an increase in value of our common stock. We did not perform a valuation of common stock, however, because we believe the resulting value per share of common stock would have been insignificant based on the small number of stock options granted between the date of achievement of this milestone and the date of initial closing of our Series F Preferred Stock financing discussed below. Based on these factors and that we issued additional shares of Series E Preferred Stock at the same price and on the same terms as prior issuances, we determined there was no basis for a significant change in the value of common stock for this period.

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Stock options granted from November 14, 2012 through March 1, 2013

From March 1, 2013 to April 30, 2013, we completed the sale of $150.0 million of our Series F Preferred Stock. The increase in share price of the Series F Preferred Stock compared to the share price of the Series E Preferred Stock was due primarily to the preference in liquidation and dividends provided in the terms of the Series F Preferred Stock. Of the $150.0 million of Series F Preferred Stock sold, approximately $79.0 million (or 52 percent) was received from new unrelated third party investors. During the period from November 14, 2012 through March 1, 2013, we issued to new employees 1,714 options to purchase shares of common stock at a price of $7.12 per share. On November 16, 2012, we purchased 47.56 percent of the then outstanding shares of common stock of AquaBounty Technologies, Inc., which we refer to as AquaBounty. We determined that the only significant event that occurred during the period from November 14, 2012 through March 1, 2013 was the December 22, 2012 notification by the FDA of the publication for comment of the Environmental Assessment of AquaBounty s most advanced product, thereby we believe significantly increasing the likelihood that such product might be sold commercially for human consumption. While we believe this notification may have resulted in an increase in the value of our common stock, we did not perform a valuation of common stock based on our plans to close our Series F Preferred Stock financing round in the first quarter of 2013.

Transactions involving shares of our common stock from March 2, 2013 through May 31, 2013

In conjunction with the initial closing of the Series F Preferred Stock financing, we initiated a contemporaneous valuation of our common stock, effective March 1, 2013 and temporarily suspended the granting of options to purchase new shares of common stock to new employees as well as the issuance of stock options and shares of our common stock to members of our board of directors pursuant to our Director Compensation Plan until such valuation was completed and approved by our board of directors. We utilized the PWERM approach, which we believed to be appropriate based on initiating discussions for an initial public offering. We calculated values under each scenario based on the assumptions and methodology as follows:

Near Term Initial Public Offering:

- Assumed a 35 percent probability of closing of an initial public offering before September 2013 at an enterprise value of approximately 25 percent greater than the post-closing enterprise value of our most recent Series F Preferred Stock sale. Our estimate of enterprise value was based on our anticipated capital structure as of September 2013 and consideration of recent initial public offering pricing data; and

- Applied a discount rate of 30 percent to arrive at a per share price of $14.87.

Low Initial Public Offering:

- Assumed a 35 percent probability of closing an initial public offering before November 2013 at the same post-closing enterprise value of our most recent Series F Preferred Stock sale; and

- Applied a discount rate of 30 percent to arrive at a per share price of $11.27.

Deferred Initial Public Offering:

- Assumed a 12 percent probability of closing an initial public offering before July 2014 at an enterprise value substantially greater than our most recent Series F Preferred Stock sale; such

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value was estimated based on our anticipated capital structure as of July 2014 and consideration of recent initial public offering pricing data which was assumed to be significantly higher than the near-term scenario because we assumed we would continue to make progress in implementing our ECC business plan prior to the closing date; and

Applied a discount rate of 30 percent to arrive at a per share price of $15.78.

Remain as Private Company:

Assumed a 12 percent probability of remaining a private company at an enterprise value substantially less than our most recent Series F Preferred Stock sale. Our estimate of enterprise value was based on comparable public company multiples; and

allocated the enterprise value to various classes of shares using the option pricing model using a volatility of 55 percent to arrive at an implied share price of $2.83.

IP Sale/Dissolution:

Assumed a 6 percent probability of dissolution of our Company with no value to common shareholders; and

Used the same approach as the scenario above that we would remain a private company with an enterprise value equal to our cumulative historical research and development investment.

We then applied the probabilities of each liquidity scenario to their respective price per share of common stock to arrive at a value per share of $11.37. Based upon our evaluation of the market and input received from our independent third-party valuation consultant, we determined that a 15 percent discount for lack of marketability was appropriate, resulting in a value per share of $9.67.

We believed each of these weightings to be appropriate in light of the current status of and risks associated with the market and us, including the execution of the additional ECCs, our deal pipeline, the development of our technologies, our available cash and anticipated future cash requirements.

On May 9, 2013, our board of directors approved the contemporaneous valuation of our common stock at a price per share of $9.67 and on May 28, 2013 and June 4, 2013, our board of directors authorized management to grant 702,571 stock options to employees and consultants at a price of $9.67 per share.

After June 4, 2013 through the closing of our initial public offering we did not grant any additional stock options or other awards.

Initial public offering price

Our initial public offering price was $16.00 per share. In comparison, our estimate of the fair value of our common stock was $9.67 per share as of March 1, 2013. The initial public offering price was not derived using a formal determination of fair value, but was determined based upon a number of factors, including prevailing market conditions and estimates of our business potential, the general condition of the securities market and the market prices of, and demand for, publicly traded common stock of generally comparable companies. In addition we believe that the difference in value reflected between the initial public offering price and the board of

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directors determination of the fair value of our common stock on March 1, 2013 was primarily the result of the following factors:

- we commenced preparations to launch a roadshow for this offering;
- the March 1, 2013 valuation used an aggregate probability weighting for the near term initial public offering and low initial public offering scenarios of 70 percent that the initial public offering would occur during 2013 at a premium to our most recent preferred stock financing round. Our discussions with our underwriters in July 2013 considered our collective perceptions of the increased optimism regarding the overall market conditions and the market for initial public offerings and confirmed our expectations that we would complete our initial public offering during the third quarter of 2013;
- the initial public offering price assumed that the initial public offering had occurred, that a public market for our common stock had been created and that all outstanding shares of our preferred stock had been converted into common stock in connection with the initial public offering, and therefore excluded any discount for lack of marketability of our common stock, which was factored in the March 1, 2013 valuation. Accordingly, the previously used private company valuation methodology is no longer applicable;
- our preferred stock had substantial economic rights and preferences superior to our common stock. The initial public offering price assumed the conversion of our preferred stock to common stock upon the completion of the offering and the corresponding elimination of such superior economic rights and preferences; and
- the proceeds of a successful initial public offering would substantially strengthen our consolidated balance sheet by increasing our cash and cash equivalents. Additionally, the completion of our initial public offering would provide us with access to the public company debt and equity markets. These projected improvements in our consolidated financial position influenced the increased common stock valuation indicated by the initial public offering price.

Jumpstart our business startups act of 2012

On April 5, 2012, the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, was enacted. Section 107 of the JOBS Act provides that an emerging growth company can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act of 1933, as amended, or the Securities Act, for complying with new or revised accounting standards. In other words, an emerging growth company can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of this extended transition period and, as a result, we will adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required for other public companies.

We are in the process of evaluating the benefits of relying on other exemptions and reduced reporting requirements provided by the JOBS Act. Subject to certain conditions set forth in the JOBS Act, if as an emerging growth company we choose to rely on such exemptions, we may not be required to, among other things, (i) provide an auditor s attestation report on our systems of internal controls over financial reporting pursuant to Section 404, (ii) provide all of the compensation disclosure that may be required of non-emerging growth public companies under the Dodd-Frank Wall Street Reform and Consumer Protection Act, (iii) comply with any

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requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor s report providing additional information about the audit and the financial statements (auditor discussion and analysis), and (iv) disclose certain executive compensation-related items such as the correlation between executive compensation and performance and comparisons of the Chief Executive Officer s compensation to median employee compensation. These exemptions will apply until we no longer meet the requirements of being an emerging growth company. We will remain an emerging growth company until the earliest of (i) the last day of the fiscal year in which we have total annual gross revenues of $1 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of the date of the completion of our initial public offering; (iii) the date on which we have issued more than $1 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the SEC.

Recent accounting pronouncements

In May 2011, the Financial Accounting Standards Board, or FASB, issued ASU No. 2011-04, Fair Value Measurement (Topic 820): Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and IFRSs. The new standards do not extend the use of fair value but, rather, provide guidance about how fair value should be applied where it already is required or permitted under U.S. GAAP or International Financial Reporting Standards, or IFRS. For U.S. GAAP, most of the changes are clarifications of existing guidance or wording changes to align with IFRS. We adopted this amendment on January 1, 2012. The adoption of this amendment did not have a material impact on our consolidated financial statements.

In June 2011, the FASB issued ASU No. 2011-05, *Comprehensive Income (Topic 220): Presentation of Comprehensive Income*, or ASU 2011-05. Under this ASU, an entity will have the option to present the components of net income and comprehensive income in either one or two consecutive financial statements. The ASU eliminates the option in U.S. GAAP to present other comprehensive income in the statement of changes in equity. An entity should apply the ASU retrospectively. In December 2011, the FASB decided to defer the effective date of those changes in ASU 2011-05 that relate only to the presentation of reclassification adjustments in the statement of income by issuing ASU 2011-12, *Comprehensive Income (Topic 220): Deferral of the Effective Date for the Amendments to the Presentation of Reclassifications of Items Out of Accumulated Other Comprehensive Income in ASU 2011-05*. We implemented the provisions of ASU 2011-05 as of January 1, 2012. The adoption of this amendment did not have a material impact on our consolidated financial statements.

In February 2013, the FASB issued ASU No. 2013-02, *Reporting of Amounts Reclassified Out of Accumulated Other Comprehensive Income*, or ASU 2013-02. ASU 2013-02 requires that companies present either in a single note or parenthetically on the face of the financial statements, the effect of significant amounts reclassified from each component of accumulated other comprehensive income based on its source and the income statement line items affected by the reclassification. If a component is not required to be reclassified to net income in its entirety, companies would instead cross reference to the related footnote for additional information. ASU 2013-02 is effective for interim and annual reporting periods beginning after December 15, 2012. We implemented the provisions of ASU 2013-02 as of January 1, 2013. The adoption of this pronouncement did not have a material impact on our consolidated financial statements.

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In December 2011, the FASB issued ASU No. 2011-11, *Balance Sheet (Topic 210): Disclosures about Offsetting Assets and Liabilities*, or ASU 2011-11. ASU 2011-11 requires an entity to disclose information about offsetting and related arrangements to enable users of financial statements to understand the effect of those arrangements on its financial position, and to allow investors to better compare financial statements prepared under U.S. GAAP with financial statements prepared under IFRS. The new standards are effective for annual periods beginning January 1, 2013 and interim periods within those annual periods. Retrospective application is required. We implemented the provisions of ASU 2011-11 as of January 1, 2013. The adoption of this pronouncement did not have a material impact on our consolidated financial statements.

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Intrexon management

Executive officers and directors

The following table sets forth certain information regarding our executive officers and directors as of December 31, 2013. (1)

Name	Age	Position(s)
Executive Officers		
Randal J. Kirk	59	Chief Executive Officer and Chairman of the Board
Krish S. Krishnan	48	Chief Operating Officer
Thomas D. Reed, Ph.D.	48	Chief Science Officer and Director
Rick L. Sterling	49	Chief Financial Officer
Donald P. Lehr	39	Chief Legal Officer
Suma M. Krishnan	48	Senior Vice President Regulatory Affairs
Darryl Webster	53	Senior Vice President Intellectual Property
Samuel Broder, M.D.	68	Senior Vice President Health Sector (1)
Thomas R. Kasser, Ph.D.	58	Senior Vice President Food Sector
Robert F. Walsh, III	55	Senior Vice President Energy and Chemicals Sector
Nick Macris	45	Vice President Environmental Sector
Non-Employee Directors		
Cesar L. Alvarez	66	Director
Steven Frank	54	Director
Larry D. Horner	79	Director
Jeffrey B. Kindler	58	Director
Dean J. Mitchell	57	Director
Robert B. Shapiro	75	Director

(1) Effective January 6, 2014, Gregory I. Frost was hired as our Senior Vice President Health Sector and Samuel Broder was named Chairman Health Sector.

Executive officers

Randal J. Kirk, Chief Executive Officer and Chairman of the Board. Mr. Kirk has served as our Chief Executive Officer since April of 2009 and Chairman of the Board since February 2008. Mr. Kirk provides a wealth of strategic, operational and management experience. Mr. Kirk currently serves as the Senior Managing Director and Chief Executive Officer of Third Security, LLC, an investment management firm founded by Mr. Kirk in March 1999. Additionally, Mr. Kirk founded and became Chairman of the Board of New River Pharmaceuticals Inc. (previously traded on NASDAQ prior to its acquisition by Shire plc in 2007) in 1996, and was President and Chief Executive Officer between October 2001 and April 2007. Mr. Kirk currently serves in a number of additional capacities including as a member of the board of directors of Halozyme Therapeutics, Inc. (NASDAQ: HALO) since May 2007 and as a member of the board of directors of ZIOPHARM

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Oncology, Inc. (NASDAQ: ZIOP) since January 2011. Previously, Mr. Kirk served as a member of the board of directors of Scios, Inc. (previously traded on NASDAQ prior to its acquisition by Johnson & Johnson) between February 2000 and May 2002, and as a member of the board of directors of Clinical Data, Inc. (previously traded on NASDAQ prior to its acquisition by Forest Laboratories, Inc. in April 2011) from September 2002 to April 2011, and was Chairman of the board of directors from December 2004 to April 2011. Mr. Kirk served on the board of visitors of Radford University from July 2003 to June 2009, was Rector of the board of directors from September 2006 to September 2008, and served on the board of directors of the Radford University Foundation, Inc. from September 1998 to May 2011. He served on the board of visitors of the University of Virginia and Affiliated Schools from July 2009 to October 2012, on the Virginia Advisory Council on Revenue Estimates from July 2006 to October 2012 and on the Governor s Economic Development and Jobs Creation Commission from April 2010 to October 2012. Mr. Kirk received a B.A. in Business from Radford University and a J.D. from the University of Virginia. We believe that Mr. Kirk s business experience, including his extensive business experience as chief executive officer of multiple companies, his experience as an investor, his service on committees of academic institutions and other public company boards, combined with his business acumen and judgment, provide our board of directors with valuable strategic and operational expertise and leadership skills.

Krish S. Krishnan, M.S., M.B.A., Chief Operating Officer. Mr. Krishnan has served as our Chief Operating Officer since 2011. Mr. Krishnan brings many years of experience in the life sciences industry, having held key executive roles at several companies including Chief Executive Officer of Pinnacle Pharmaceuticals, Inc. from 2009 to 2011 and, most notably, his tenure as Chief Financial Officer and Chief Operating Officer from April 2004 until April 2007, and a member of the board of directors from March 2003 until April 2007 of New River Pharmaceuticals, Inc. (previously traded on NASDAQ prior to its acquisition by Shire plc in 2007). Previously, he served as a Senior Managing Director of Third Security, LLC between 2001 and 2008 and as a board member of Biotie Therapies Oyj (BTH1V:Helsinki) between 2008 and 2009. Mr. Krishnan started his career as an engineer with E.I. Dupont de Nemours in Wilmington, Delaware. He received a B.S. in Mechanical Engineering from the Indian Institute of Technology, an M.S. in Engineering from the University of Toledo, and an M.B.A. in Finance from The Wharton School at the University of Pennsylvania.

Thomas D. Reed, Ph.D., Chief Science Officer and Director. Dr. Reed co-founded Intrexon in 1998 and has served as Chief Science Officer since then and has served on the board of directors since 1998. Dr. Reed is a molecular geneticist with over 20 years of experience in recombinant DNA technology. He has developed sophisticated transgenic model systems for studying the role of gene products in neuronal, cardiovascular, and cancer systems. Dr. Reed has published numerous peer-reviewed articles in the fields of subcellular modulation, gene regulation and cardiac function and is an inventor on numerous patents. Dr. Reed received his B.S. in Genetics from the University of California-Davis, an M.S. in Biological Science from Wright State University, and a Ph.D. in Molecular and Developmental Biology from the University of Cincinnati.

Rick L. Sterling, Chief Financial Officer. Mr. Sterling has served as our Chief Financial Officer since 2007. Prior to joining us, he was with KPMG where he worked in the audit practice for over 17 years, with a client base primarily in the healthcare, technology and manufacturing industries. Mr. Sterling s experience includes serving clients in both the private and public sector, including significant experience with SEC filings and Sarbanes-Oxley compliance. He received a B.S. in Accounting and Finance from Virginia Polytechnical Institute and State University and is a licensed Certified Public Accountant.

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Donald P. Lehr, Chief Legal Officer. Mr. Lehr has served as our Chief Legal Officer since 2011. From 2009 to 2011 he served as our Associate General Counsel. Mr. Lehr has broad experience in the areas of corporate, securities, and general business law. Prior to joining us, he was at Hogan Lovells LLP (formerly Hogan & Hartson, LLP) in Baltimore, Maryland from 2002 to 2009. While at Hogan, his practice included the representation of privately and publicly held corporations across many industries, including biotechnology, pharmaceuticals, health care, software, technology, and manufacturing. Prior to his time at Hogan, Mr. Lehr served as a judicial clerk for the Honorable Irma S. Raker of the Court of Appeals of Maryland. Mr. Lehr received a B.A. from Swarthmore College and received a J.D. from the University of Maryland School of Law.

Suma M. Krishnan, Senior Vice President Regulatory Affairs. Mrs. Krishnan has served as our Senior Vice President Regulatory Affairs since 2012. From 2009 to 2011, Mrs. Krishnan served as Senior Vice President of Product Development at Pinnacle Pharmaceuticals, Inc. From 2007 to 2009, she served as Chief Financial Officer of Light Matters Foundation. Previously, Mrs. Krishnan was Vice President, Product Development at New River Pharmaceuticals Inc. from September 2002 until its acquisition by Shire plc in April 2007. Mrs. Krishnan has 22 years experience in drug development. Prior to serving at New River Pharmaceuticals Inc., Mrs. Krishnan served in the following capacities: Director, Regulatory Affairs at Shire Pharmaceuticals, Inc., a specialty pharmaceutical company; Senior Project Manager at Pfizer, Inc., a multi-national pharmaceutical company; and a consultant at the Weinberg Group, a pharmaceutical and environmental consulting firm. Mrs. Krishnan began her career as a discovery scientist for Janssen Pharmaceuticals, Inc., a subsidiary of Johnson & Johnson, a multi-national pharmaceutical company, in May 1991. Mrs. Krishnan received an M.S. in Organic Chemistry from Villanova University, an M.B.A. from Institute of Management and Research (India) and an undergraduate degree in Organic Chemistry from Ferguson University (India).

Darryl Webster, Senior Vice President, Intellectual Property. Mr. Webster has served as our Senior Vice President, Intellectual Property since 2010. Mr. Webster has over 25 years of legal experience. During his law firm experience and 20 plus years of corporate IP practice, he has worked in scientific areas that match each of the markets we are targeting. Prior to joining us, Mr. Webster was most recently Senior Patent Counsel at Wyeth Pharmaceuticals, Inc. (now Pfizer Inc.), where he worked from 1993 to 2010. During his sixteen years at Wyeth, he was the lead patent counsel for several key products and areas including a $6B biological, the Asia Pacific Region, and the Wyeth Nutrition business. Before his work at Wyeth, he worked for more than four years in the core chemical and biochemical areas at AlliedSignal Inc., now Honeywell International Inc. Mr. Webster received Bachelors degrees in Chemistry (Biological Specialization) and Economics from Duke University and a J.D. from the University of Maryland School of Law.

Samuel Broder, M.D., Senior Vice President Health Sector. Dr. Broder has served as our Senior Vice President Health Sector since 2012. Dr. Broder is an oncologist and medical researcher with particular expertise in the relationship between disorders of the immune system and cancer. Dr. Broder previously served as a science consultant for Intrexon from January 2012 to August 2012. Dr. Broder served as Executive Vice President for Medical Affairs and Chief Medical Officer of Celera Corporation (now a Division of Quest Diagnostics Incorporated) from 1998 to 2010. From 2010 to 2012, Dr. Broder was self-employed as an industry consultant. In the mid-1980s, Dr. Broder s laboratory played a significant role in developing the first three therapeutic agents approved by the U.S. Food and Drug Administration to treat the AIDS virus. In 1989, Dr. Broder received a Presidential appointment to serve as Director of the National Cancer Institute. Dr. Broder held this position for six years, during which time he oversaw the development of

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several anti-cancer therapeutic agents. Dr. Broder received both his undergraduate and medical degrees from the University of Michigan.

Thomas R. Kasser, Ph.D., Senior Vice President Food Sector. Dr. Kasser has served as Senior Vice President Food Sector since May 2013. Dr. Kasser served as President of Animal Sciences and Agricultural Biotechnology Divisions and Senior Vice President from April 2012 to May 2013 and, prior to that, as President of the Animal Sciences Division from March 2011. Dr. Kasser brings over 25 years of business management experience in the biotechnology and life sciences industries. He was most recently President and Chief Executive Officer of Angionics, Inc., an early-stage biotech company focused on novel anti-angiogenic technology directed at therapies for cancer and ocular diseases from June 2009 to March 2011. Prior to Angionics, he was a Covance Corporate Vice President and General Manager of Covance Research Products Inc. Dr. Kasser had over 20 years of experience at Monsanto Company both in commercial as well as scientific leadership roles, including tenures as General Manager of Monsanto Choice Genetics, Inc., directing new product development for the Nutrition and Consumer products business, and managing clinical safety and efficacy trials under the jurisdiction of the Food and Drug Administration s Center for Veterinary Medicine. Dr. Kasser was designated a Monsanto Fellow in recognition of his scientific and technical excellence. He currently serves on the board of directors for AquaBounty Technologies, Inc., an aquaculture biotechnology company. Dr. Kasser received an M.S. in Animal Nutrition from The Pennsylvania State University, an M.B.A. from Washington University St. Louis and a Ph.D. in Nutrition from the University of Georgia.

Robert F. Walsh, III, Senior Vice President Energy Sector, and President Industrial Products Division. Mr. Walsh has served as our Senior Vice President Energy Sector and President Industrial Products Division since 2013. Mr. Walsh has over 30 years of experience in the petroleum and chemical industries. Mr. Walsh served as Chief Commercial Officer of ZeaChem Inc., a cellulosic biofuel and biochemical company, from 2013 to 2011. Prior to his time at ZeaChem, Mr. Walsh served as Chief Executive Officer of Aurora Algae, Inc., an algae production company, from 2008 to 2010, President of LS9, Inc., an industrial biotechnology company, from 2007 to 2008, Senior Vice President and Chief Operating Officer of Chemoil Corporation, from 2005 to 2006, and General Manager Supply, Europe for Shell Europe Oil Products, from 2001 to 2006. Mr. Walsh received a B.S. in Chemical Engineering from Purdue University.

Nick Macris, Vice President Environmental Sector. Mr. Macris has served as our Vice President Environmental Sector since May 2013 and previously served as our Vice President, Business Development Agricultural Biotechnology Division from April 2013 to May 2013. Mr. Macris career spans 15 years in the specialty chemical, water treatment, agricultural chemical and biopesticide industries with many large and small companies including 3M Company, Rohm and Haas (now The Dow Chemical Company) and FMC Corporation. Mr. Macris previously served as the Vice President of Business Development at Marrone Bio Innovations, a natural pesticides company, from May 2007 until March 2013. Mr. Macris has a successful track record of business development, strategy and manufacturing leadership. Mr. Macris earned both a B.S. in Chemistry/Biophysics and an M.E.S in Chemical/Biochemical Engineering from the University of Western Ontario and later an M.B.A from University of Western Ontario Richard Ivey School of Business.

Non-employee directors

Cesar L. Alvarez. Mr. Alvarez has served as a board member since February 2008. Mr. Alvarez has served since February 2010 as the Executive Chairman of the international law firm of Greenberg Traurig, LLP, and previously served as its Chief Executive Officer from 1997 until his election as

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Executive Chairman. Mr. Alvarez also serves on the board of directors of Mednax, Inc. (NYSE:MD), a provider of physician services including newborn, maternal-fetal, pediatric subspecialties, and anesthesia care, Watsco, Inc. (NYSE:WSO), a distributor of air conditioning, heating and refrigeration equipment and related parts and supplies, St. Joe Co. (NYSE:JOE), a real estate development company, and Fairholme Funds, Inc., a family of publicly traded focused investment funds. Mr. Alvarez holds a Bachelor of Science, an M.B.A., and a J.D. from the University of Florida. Mr. Alvarez s qualifications to serve on the board of directors include his management experience at one of the nation s largest law firms with professionals providing services in multiple locations across the country and abroad as well as his many years of corporate experience, both counseling and serving on the boards of directors of publicly traded and private companies.

Steven Frank. Mr. Frank has served as a board member since February 2008. Mr. Frank joined J.P. Morgan Securities LLC in June 2008 and currently serves as Chairman of Global Healthcare Investment Banking. Mr. Frank had previously been the head of Bear Stearns Worldwide Health Care Investment Banking group in New York for 16 years and has provided general investment banking services to all types of health care companies. Specifically, Mr. Frank has led or played major roles in hundreds of mergers and acquisitions and financing transactions across the spectrum of deal structures. He has specialized in transactions involving pharmaceutical, medical device and biotechnology companies. Prior to joining Bear Stearns in 1993, Mr. Frank served over ten years as an institutional investor, primarily at State Farm Insurance Company, where he managed a life sciences portfolio in excess of $4 billion. Mr. Frank holds a B.S. from Illinois State University and an M.B.A. from the University of Chicago. We believe Mr. Frank s extensive knowledge of our industry and of finance and capital structure strengthen the board of directors collective qualifications, skills and experience.

Larry D. Horner. Mr. Horner has served as a board member since February 2008. Mr. Horner served as a director of Clinical Data, Inc., a provider of physicians office and hospital laboratory products, and of New River Pharmaceuticals Inc., a publicly traded specialty pharmaceutical company focused on developing novel pharmaceuticals and improved versions of widely-prescribed drugs, from 1999 until its acquisition by Shire plc in April 2007. From 1994 to 2001, Mr. Horner served as Chairman of the Board of Pacific USA Holdings Corporation, a holding company of companies in real estate and financial services. From 1997 to 2001, Mr. Horner served as Chairman of the Board of Asia Pacific Wire & Cable, Ltd., a publicly traded manufacturer of wire and cable products for the telecommunications and power industries in the Asia Pacific Region. From 1991 to 1994, he served as Managing Director of Arnhold & S. Bleichroeder, Inc., an equity market trading and corporate finance firm. Prior to that, he served as Chairman and Chief Executive Officer of the accounting firm KPMG Peat Marwick.
Mr. Horner has served on the boards of directors of Atlantis Plastics, Inc., a manufacturer of plastic films and plastic components, TOUSA, Inc., a homebuilder, and UTStarcom, Inc., a provider of wireline, wireless, optical, and access switching solutions, all of which were then public companies; Mr. Horner served on the audit committee of all three of these companies and as the audit committee financial expert for Atlantis Plastics, Inc. and UTStarcom, Inc. He also previously served on the boards of directors of ConocoPhillips, an energy company, and American General Company. Mr. Horner received a B.S. from the University of Kansas and is a graduate of the Stanford Executive Program. We believe Mr. Horner s extensive management experience as the former Chairman and Chief Executive Officer of one of the world s largest accounting firms, his accounting and financial expertise, and his experience in serving on the boards of directors of publicly traded and private companies make him well-qualified to serve on our board of directors.

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Jeffrey B. Kindler. Mr. Kindler has served as a board member since November 2011. Mr. Kindler is a venture partner with Lux Capital, a venture capital firm; a director of Starboard Capital Partners, a private equity firm; and a principal at Paragon Pharmaceuticals, a private pharmaceutical company. He was Chief Executive Officer and Chairman of the Board of Pfizer, Inc. (NYSE:PFE), a pharmaceutical company, from 2006 until his retirement in December 2010. Prior to that, he was Vice Chairman and General Counsel of Pfizer from 2005 to 2006, Executive Vice President and General Counsel from 2004 to 2005, and Senior Vice President and General Counsel from 2002 to 2004. Prior to joining Pfizer, he was Chairman of Boston Market Corporation from 2000 to 2001, and President of the Partner Brands group of McDonald s Corporation during 2001. Mr. Kindler serves on the board of directors of Chipotle Mexican Grill, Inc. (NYSE: CMG), a chain of Mexican restaurants, and Siga Technologies, Inc (Nasdaq:SIGA) a developer of vaccines and anti-virals). Mr. Kindler serves as a board member for a number of privately-held companies as well as several civic, charitable, educational and other organizations. He brings leadership, extensive business, operating, legal and policy, and corporate strategy experience to our board of directors, as well as tremendous knowledge of our industry and the fundamentals of our business. Mr. Kindler received a B.A. from Tufts University and a J.D. from Harvard Law School.

Dean J. Mitchell. Mr. Mitchell has served as a board member since March 2009. In July 2010, Mr. Mitchell was appointed President and Chief Executive Officer of Lux Biosciences, Inc., a private biopharmaceutical company, and also was appointed a member of its board of directors. He also currently serves on the board of directors of ISTA Pharmaceuticals, Inc., a multi-specialty pharmaceutical company. In 2009, he was appointed as a non-executive director of Talecris Biotherapeutics, Inc., a biopharmaceutical company and producer and marketer of plasma-derived protein therapies. He was previously President and Chief Executive Officer of Alpharma Inc., a global specialty pharmaceutical company, and also was appointed a member of its board of directors in July 2006. Alpharma Inc. was acquired by King Pharmaceuticals, Inc. in December 2008, and Mr. Mitchell ceased to be an officer and a director of Alpharma Inc. on December 29, 2008. Prior to this, he was President and Chief Executive Officer of Guilford Pharmaceuticals Inc., a public company, from December 2004 until its acquisition by MGI Pharma Inc., a public biopharmaceutical company focused in oncology and acute care, in October 2005, and was a non-executive director of MGI Pharma Inc. until its acquisition by Eisai Co., Ltd. in January 2008. Mr. Mitchell was at Bristol-Myers Squibb, a public company, from 2001 until 2004 in several roles including President International, President U.S. Primary Care and Vice President, Strategy. He also spent 15 years at Glaxo SmithKline, a public company, and its predecessor companies, most recently as Senior Vice President, Clinical Development and Product Strategy from 1999 to 2001, and prior to that as Vice President and General Manager, Specialty Divisions, Strategic Planning and Business Development, from 1995 to 1999. He received an M.B.A. from City University Business School, in London, U.K., and a B.Sc. degree in Biology from Coventry University, U.K. Mr. Mitchell has served as a member of the boards of directors of Alpharma, Inc., Guilford Pharmaceuticals, Inc., a pharmaceutical company that produced products for the hospital and neurology markets, MGI Pharma Inc., and Talecris Biopharmaceuticals, all of which were then public companies. Mr. Mitchell brings to our board of directors extensive experience in the pharmaceutical industry, specifically in the areas of management, business and corporate development, sales and marketing and clinical development, as well as his vast experience in service on boards of directors of companies in our industry.

Robert. B. Shapiro. Mr. Shapiro has served as a board member since November 2011. Mr. Shapiro is Co-Founder and Managing Director of Sandbox Industries, a development firm

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that creates, launches and manages new business concepts. Sandbox Industries also manages venture funds, including the BlueCross BlueShield Venture Partners fund. Mr. Shapiro has served as the Managing Director of Sandbox Industries since its formation in 2004. He was formerly Chairman and Chief Executive Officer of Monsanto from 1995 to 2000. Upon the merger of Monsanto with Pharmacia & Upjohn, he served as Chairman of the newly-formed Pharmacia Corporation. Previously, Mr. Shapiro was President and Chief Operating Officer of Monsanto from 1992 to 1995 and President of Monsanto s Agriculture Group from 1990 to 1992, Chairman and Chief Executive Officer of The NutraSweet Company, a subsidiary of Monsanto, from 1985 to 1990 and President of the NutraSweet Group of G.D. Searle & Co., or Searle, from 1982 to 1985, where he previously served as Vice President and General Counsel. Before joining Searle, Mr. Shapiro was Vice President and General Counsel of General Instrument Corporation from 1972 to 1979. Prior to this, he practiced law in New York City; served in government as Special Assistant to the General Counsel and later to the Undersecretary of the U.S. Department of Transportation; and served as a professor of law at Northeastern University in Boston and the University of Wisconsin in Madison. Mr. Shapiro has served on the boards of directors of the New York Stock Exchange (later NYSE Euronext), Citigroup Inc., Rockwell International, Silicon Graphics Inc., and Sequus Pharmaceuticals, Inc. He currently serves as a director of Chromatin, Inc., Elevance Renewable Sciences, Inc. and Sapphire Energy Inc., all privately-held corporations. Mr. Shapiro has also served on the President s Advisory Committee on Trade Policy, and on the White House Domestic Policy Review of Industrial Innovation. He is a Fellow of the American Academy of Arts and Sciences. Mr. Shapiro is a graduate of Harvard College and holds a J.D. from Columbia University School of Law. As a result of these and other professional experiences, we believe Mr. Shapiro possesses particular knowledge and experience in: strategic planning and leadership of complex organizations; accounting, finance and capital structure; legal, regulatory and government affairs; people management; and board practices of other entities, which strengthen the board of directors collective qualifications, skills and experience.

Family relationships

There are no family relationships among any of our directors or executive officers, except that Krish S. Krishnan, our Chief Operating Officer, and Suma M. Krishnan, our Senior Vice President of Regulatory Affairs, are husband and wife. Suma M. Krishnan reports directly to our Chief Executive Officer.

Board composition

Our board of directors currently consists of eight members, all of whom were elected as directors pursuant to a shareholders agreement that we entered into with the former holders of our preferred stock. The shareholders agreement terminated upon the closing of our initial public offering and there are no further obligations regarding the election of our directors. Our directors hold office until their successors have been elected and qualified or until the earlier of their resignation or removal.

Our amended and restated articles of incorporation and bylaws provide that the authorized number of directors may be changed only by resolution of the board of directors. Our amended and restated articles of incorporation and bylaws also provide that any vacancy on our board of directors, including a vacancy resulting from an enlargement of our board of directors, may be filled only by vote of a majority of our directors then in office, although less than a quorum or by a sole remaining director.

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We have no formal policy regarding board diversity. Our priority in selection of board members is identification of members who will further the interests of our shareholders through his or her established record of professional accomplishment, the ability to contribute positively to the collaborative culture among board members, knowledge of our business and understanding of the competitive landscape.

Director independence

Rule 303A.01 of the New York Stock Exchange Listed Company Manual, or NYSE Rules, requires a majority of a listed company s board of directors to be composed of independent directors within one year of listing. In addition, the NYSE Rules require that, subject to specified exceptions, each member of a listed company s audit, compensation and nominating and governance committees be independent. Under Rule 303A.02, a director will only qualify as an independent director if, in the opinion of our board of directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. The NYSE Rules also require that audit committee members satisfy independence criteria set forth in Rule 10A-3 under the Securities Exchange Act of 1934, as amended, or the Exchange Act. In order to be considered independent for purposes of Rule 10A-3, a member of an audit committee of a listed company may not, other than in his or her capacity as a member of the audit committee, the board of directors, or any other board committee, accept, directly or indirectly, any consulting, advisory, or other compensatory fee from the listed company or any of its subsidiaries or otherwise be an affiliated person of the listed company or any of its subsidiaries. In considering the independence of compensation committee members, the NYSE Rules require that our board of directors must consider additional factors relevant to the duties of a compensation committee member, including the source of any compensation we pay to the director and any affiliations with the company.

In July 2013, our board of directors undertook a review of the composition of our board of directors and its committees and the independence of each director. Based upon information requested from and provided by each director concerning his background, employment and affiliations, including family relationships, our board of directors has determined that each of our directors, with the exception of Randal J. Kirk and Thomas D. Reed, is an independent director as defined under Rule 303A.02 of the NYSE Rules. Our board of directors also determined that Cesar L. Alvarez, Larry D. Horner and Jeffrey B. Kindler, who are the members of our audit committee, and Jeffrey B. Kindler, Dean J. Mitchell and Robert B. Shapiro, who are the members of our compensation committee, satisfy the independence standards for such committees established by the Securities and Exchange Commission, or SEC, and the NYSE Rules, as applicable. In making such determinations, our board of directors considered the relationships that each such non-employee director has with our Company and all other facts and circumstances our board of directors deemed relevant in determining independence, including the beneficial ownership of our capital stock by each non-employee director.

Board committees

Our board of directors has established an audit committee, a compensation committee and a nominating and governance committee. Each of these committees operates under a charter that has been approved by our board of directors.

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Audit committee

The members of our audit committee are Mr. Alvarez, Mr. Horner and Mr. Kindler. Mr. Horner is the chair of the audit committee. Our board of directors has determined that the chairman qualifies as an audit committee financial expert within the meaning of SEC regulations and the NYSE Rules. In making this determination, our board has considered the formal education and nature and scope of his previous experience, coupled with past and present service on various audit committees. Our audit committee assists our board of directors in its oversight of our accounting and financial reporting process and the audits of our financial statements. Our audit committee s responsibilities include, among other things, overseeing:

- our accounting and financial reporting processes;
- the integrity of the our financial statements;
- our compliance with laws and regulations;
- our independent auditor s qualifications and independence; and
- the performance of our internal audit functions and independent auditors.

Compensation committee

The members of our compensation committee are Mr. Kindler, Mr. Mitchell and Mr. Shapiro. Mr. Kindler is the chair of the compensation committee. Our compensation committee assists our board of directors in the discharge of its responsibilities relating to the compensation of our executive officers. The compensation committee s responsibilities include, among other things:

- developing and maintaining an executive compensation policy and monitor the results of that policy;
- considering the impact of our compensation policy and practices on our risk profile;
- recommending to the board for approval compensation and benefit plans;
- reviewing and approving annually corporate and personal goals and objectives to serve as the basis for the Chief Executive Officer s compensation, evaluating the Chief Executive Officer s performance in light of those goals and objectives and determining the Chief Executive Officer s compensation based on that evaluation;
- determining and approving the annual compensation for other executive officers;
- retaining or obtaining the advice of a compensation consultant, outside legal counsel or other advisor;

approving any grants of stock options, restricted stock, performance shares, stock appreciation rights, and other equity-based incentives to the extent provided under the our equity compensation plans;

reviewing and making recommendations to the board regarding the compensation of non-employee directors;

reviewing and discussing with management the Compensation Discussion and Analysis to the extent required by SEC rules;

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preparing the compensation committee report required by SEC rules;

reviewing and recommending to the board for approval our approach with respect to the advisory vote on executive compensation, or say-on-pay, and the frequency of the say-on-pay advisory vote; and

considering the application of Section 162(m) of the Internal Revenue Code to our compensation practices and developing a related policy.

Nominating and governance committee

The members of our nominating and governance committee are Mr. Alvarez, Mr. Mitchell and Mr. Shapiro. Mr. Alvarez is the chair of the nominating and corporate governance committee. The nominating and corporate governance committee s responsibilities include, among other things:

considering and reviewing periodically the desired composition of the board;

establishing any qualifications and standards for individual directors;

identifying, nominating and evaluating candidates for election to the board;

ensuring that the board is composed of a sufficient number of independent directors to satisfy SEC and requirements and that at least three directors satisfy the NYSE Rules financial and accounting experience requirements and the heightened independence standards of the SEC and that at least one of such three members qualifies as an audit committee financial expert ;

making recommendations to the board regarding the size of the board, the tenure and classifications of directors, and the composition of the board s committees;

reviewing and evaluating our various governance policies and guidelines;

considering chief executive officer succession planning;

reviewing committee structure and effectiveness; and

considering other corporate governance and related matters as requested by the board.

Compensation committee interlocks and insider participation

None of our executive officers serves, or in the past has served, as a member of the board of directors or compensation committee, or other committee serving an equivalent function, of any entity that has one or more executive officers who serve as members of our board of directors or our compensation committee. None of the members of our compensation committee is an officer or employee of our Company, nor have they ever been an officer or employee of our Company.

Code of business conduct and ethics

We have adopted a written code of business conduct and ethics that applies to our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. A copy of the code is available on the Corporate Governance section of our website, which is located at www.dna.com. If we make any substantive amendments to, or grant any waivers from, the code of business conduct and ethics for any officer or director, we will disclose the nature of such amendment or waiver on our website or in a current report on Form 8-K.

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Intrexon executive compensation

The tables and discussion below present compensation information for our chief executive officer and our two other most highly compensated officers for the year ended December 31, 2013, whom we refer to collectively as our named executive officers. These officers are:

Randal J. Kirk, Chief Executive Officer and Chairman of the Board;

Samuel Broder, M.D., Senior Vice President Health Sector;

Robert F. Walsh, III, Senior Vice President Energy and Chemicals Sector

Summary compensation table

The following table sets forth the compensation paid or accrued during the fiscal years ended December 31, 2013 and 2012 to our named executive officers.

Name and principal position	Year	Salary ($)(1)	Bonus ($)(2)	Stock awards ($)	Option awards ($)(3)	Non-Equity incentive plan compensation($)	Change in pension value and nonqualified deferred compensation earnings($)	All other compensation ($)(4)	Total ($)
Randal J. Kirk(5)	2013								
Chief Executive Officer and Chairman of the Board	2012								
Samuel Broder	2013	485,333			357,840				843,173
	2012	122,733							122,733
Senior M.D., Senior Vice President Health Sector									
Robert F. Walsh, III	2013	190,962			715,680			11,767	913,908
Senior Vice President Energy and Chemicals Sector									

(1) Represents salaries before any employee contributions under our 401(k) Plan.

(2) Discretionary cash incentive awards for the 2013 fiscal year are not calculable as of the date of this prospectus and are expected to be determined in February 2014

(3) Represents the grant date fair value computed by us for financial reporting purposes, computed in accordance with FASB ASC Topic 718. For a full description of the assumptions we use in computing these amounts, see Note 11 to our consolidated financial statements for the years ended December 31, 2012 and 2011 which are included elsewhere in this prospectus. The actual value a named executive officer may receive depends on market prices and there

can be no assurance that the amounts reflected in the Option Awards column will actually be realized. No gain to a named executive officer is possible without an appreciation in stock value after the date of grant.

(4) For 2013, includes the following items and amounts. For Mr. Walsh: 401(k) Plan matching contribution of $4,500; and welfare and life benefits employer premiums of $7,267.

(5) We did not compensate Mr. Kirk in 2012 or 2013.

Narrative to summary compensation table

In 2013, we paid base salaries to Dr. Broder and Mr. Walsh of $485,333 and $190,962, respectively. As of December 31, 2013, the base salaries of Dr. Broder and Mr. Walsh are $546,000 and $300,000, respectively. We did not compensate Mr. Kirk for his services during 2013, and Mr. Kirk will not receive an annual base salary for 2014. Base salaries are used to recognize the

1 Effective January 6, 2014, Samuel Broder was named Chairman Health Sector.

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experience, skills, knowledge and responsibilities required of all of our employees, including our named executive officers. None of our named executive officers is currently party to an employment agreement or other agreement or arrangement that provides for automatic or scheduled increases in base salary.

Our board of directors may, at its discretion, award bonuses to our named executive officers from time to time. We typically establish bonus targets for our named executive officers and evaluate their performance based on the achievement of goals and objectives by each individual employee. Our management may propose bonus awards to the compensation committee of the board of directors primarily based on such achievements. Our board of directors makes the final determination of the eligibility requirements for and the amounts of such bonus awards. Bonus awards for 2013 are expected to be determined in February 2014.

Although we do not have a formal policy with respect to the grant of equity incentive awards to our executive officers, or any formal equity ownership guidelines applicable to them, we believe that equity grants provide our executives with a strong link to our long-term performance, create an ownership culture, and help to align the ownership interests of our executives and our shareholders. In addition, we believe that equity grants with a time-based vesting feature promote executive retention because this feature incentivizes our executive officers to remain in our employment during the vesting period.

Outstanding equity awards at fiscal year end

The following table sets forth specified information concerning unexercised stock options and equity incentive plan awards for each of the named executive officers outstanding as of December 31, 2013.

		Option awards				
		Number of securities underlying unexercised options		Equity incentive plan awards: Number of securities underlying unexercised unearned options	Option exercise price ($)	Option expiration date
Name	Grant date	Exercisable	Unexercisable			
Randal J. Kirk		8,571			$ 2.74	
	2/20/2008					2/20/2018
	2/20/2009	2,857			$ 3.29	2/20/2019
Samuel Broder, M.D.	5/28/2013		57,142(1)		$ 9.67	5/28/2023
Robert F. Walsh, III	5/28/2013		114,285(2)		$ 9.67	5/28/2023

(1) These options will vest annually in increments of 14,285, 14,286, 14,285 and 14,286 on each of May 1, 2014, 2015, 2016 and 2017, respectively.
(2) These options will vest annually in increments of 28,571, 28,571, 28,571 and 28,572 on each of May 13, 2014, 2015, 2016 and 2017, respectively.

Employment agreements with named executive officers

We do not have formal employment agreements with Mr. Kirk, Dr. Broder or Mr. Walsh.

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Compensation recovery policies

It is the board s policy that in the event the board determines that a significant restatement or correction of our financial results or other metrics is required for the prior fiscal year for which audited financial statements have been completed, and, had the results or metrics been properly calculated, our officers would have received less compensation, the board has the authority to obtain reimbursement of any portion of any performance based compensation paid or awarded, whether cash or equity based, to the officers and to other employees responsible for accounting errors resulting in the restatement or correction that is greater than would have been paid or awarded calculated based upon the restated or corrected financial results or metrics. Further, it is the policy of the board to seek recoupment in all instances where Section 304 of the Sarbanes-Oxley Act of 2002 requires us to seek recoupment.

Equity compensation plans and other benefit plans

Intrexon Corporation 2008 Equity Incentive Plan

The Intrexon Corporation 2008 Equity Incentive Plan, as amended, which we refer to as the 2008 Plan, was first adopted by our board of directors and our shareholders in April 2008.

The 2008 Plan provides for the grant of incentive stock options, nonstatutory stock options, stock appreciation rights, or SARs, restricted stock awards, restricted stock unit awards and incentive awards. Our employees, directors, consultants and advisors, and the employees, directors, consultants and advisors of our affiliated entities, are eligible to receive awards under the 2008 Plan; however, incentive stock options may only be granted to our employees or the employees of our affiliated entities. In accordance with the terms of the 2008 Plan, the compensation committee of our board of directors administers the 2008 Plan and, subject to any limitations in the 2008 Plan, selects the recipients of awards and determines, among other things:

- the number of shares of common stock covered by options and the dates upon which those options become exercisable;
- the exercise prices of options;
- the duration of options (subject to certain limitations set forth in the plan);
- the methods of payment of the exercise price of options;
- the number of shares of common stock subject to any SARs and the terms and conditions of those rights, including the term (subject to certain limitations set forth in the plan), the conditions for exercise and payment upon exercise;
- the number of shares of common stock subject to any restricted stock awards and restricted stock unit awards and the terms and conditions of those awards, including the price, if any, restriction period (subject to certain limitations set forth in the plan) and conditions for repurchase (with respect to restricted stock awards); and
- the number of shares of common stock subject to any incentive awards and the terms and conditions of those awards, including the payment terms and award or the dollar amount of any incentive award period (subject to certain limitations set forth in the plan).

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In the event of a change in control, as defined in the 2008 Plan, the compensation committee has the discretion to take one or more of the following actions with respect to outstanding awards on or before the date of the change in control:

- provide, upon notice to the participant, that some or all of the outstanding awards shall terminate on or before the change in control without payment to the holder of such award if not exercised by the holder (to the extent such awards are then exercisable or exercisable by the change in control) within a specified reasonable period of time;

- provide that all outstanding awards shall terminate on or before the change in control in consideration for payment to the holders (to the extent such awards are then exercisable or exercisable by the change in control) of the excess, if any, of the fair market value of the common stock subject to the award minus the exercise price or initial value (as applicable); and

- take such other action as the compensation committee determines reasonable to permit the holder of the award to realize the value of the award (to the extent such awards are then exercisable or exercisable by the change in control).

As of December 31, 2013 and December 31, 2012, there were options to purchase an aggregate of 2,554,648 shares and 2,313,526 shares, respectively, of common stock outstanding under the 2008 Plan at a weighted-average exercise price of $6.80 and $5.90 per share, respectively. On and after the effective date of the Intrexon Corporation 2013 Omnibus Incentive Plan described below, which we refer to as the 2013 Plan, we have not granted any further stock options or other awards under the 2008 Plan.

Intrexon Corporation 2013 Omnibus Incentive Plan

The 2013 Plan became effective upon the closing of our initial public offering in August 2013. The material terms of the 2013 Plan are summarized below. As of December 31, 2013, there were options to purchase an aggregate of 286,000 shares of common stock outstanding under the 2013 Plan at a weighted-average exercise price of $21.42 per share. As of December 31, 2013, there were 6,714,000 shares of common stock reserved for future issuance under the 2013 Plan.

Summary of the material terms of the 2013 Plan

Purpose. We established the 2013 Plan to attract, retain and motivate our employees, officers and directors, to promote the success of our business by linking the personal interests of our employees, officers, consultants, advisors and directors to those of our shareholders and to encourage stock ownership on the part of management. The 2013 Plan is intended to permit the grant of stock options (both incentive stock options, or ISOs and non-qualified stock options, or NQSOs or, collectively Options), stock appreciation rights, or SARS, restricted stock awards, or Restricted Stock Awards, restricted stock units, or RSUs, incentive awards, or Incentive Awards, other stock-based awards, or Stock Based Awards, and dividend equivalents, or Dividend Equivalents.

Administration. The 2013 Plan is administered by our Compensation Committee, who has the authority to grant awards to such persons and upon such terms and conditions (not inconsistent with the provisions of the 2013 Plan) as it may consider appropriate. Our Compensation Committee may act through subcommittees or, with respect to awards granted to individuals who are not subject to the reporting and other provisions of Section 16 of the Exchange Act and who are not members of our board of directors or the board of directors of our Affiliates (as defined by the 2013 Plan), delegate to one or more officers all or part of its duties with respect

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to such awards. Our Compensation Committee may, at its discretion, accelerate the time at which any award may be exercised, become transferable or nonforfeitable or become earned and settled including without limitation (i) in the event of the participant s death, disability, retirement or involuntary termination of employment or service (including a voluntary termination of employment or service for good reason) or (ii) in connection with a Change in Control (as defined in the 2013 Plan).

Authorized Shares. Under the 2013 Plan, we may issue a maximum aggregate of 7,000,000 shares of common stock, all of which may be issued pursuant to Options, SARs, Restricted Stock Awards, RSUs, Incentive Awards, Stock-Based Awards or Dividend Equivalents. Each share issued in connection with an award will reduce the number of shares available under the 2013 Plan by one, and each share covered under a SAR will reduce the number of shares available under the 2013 Plan by one, even though the share is not actually issued upon settlement of the SAR. Shares relating to awards that are terminated by expiration, forfeiture, cancellation or otherwise without issuance of shares of common stock, settled in cash in lieu of shares, or exchanged prior to the issuance of shares for awards not involving shares, will again be available for issuance under the 2013 Plan. Shares not issued as a result of net settlement of an award, tendered or withheld to pay the exercise price, purchase price or withholding taxes of an award or shares purchased on the open market with the proceeds of the exercise price of an award will not again be available for issuance under the 2013 Plan.

Written Agreements. All awards granted under the 2013 Plan will be governed by separate written agreements between the participants and us. The written agreements will specify the terms of the particular awards.

Transferability. Generally, an award is non-transferable except by will or the laws of descent and distribution, and during the lifetime of the participant to whom the award is granted, the award may only be exercised by, or payable to, the participant. However, the Compensation Committee may provide that awards, other than ISOs or a Corresponding SAR that is related to an ISO, may be transferred by a participant to immediate family members or trust or other entities on behalf of the Participant and/or family members for charitable donations. Any such transfer will be permitted only if (i) the participant does not receive any consideration for the transfer and (ii) the Committee expressly approves the transfer. The holder of the transferred award will be bound by the same terms and conditions that governed the award during the period that it was held by the participant, except that such transferee may only transfer the award by will or the laws of descent and distribution.

Maximum Award Period. No award shall be exercisable or become vested or payable more than ten years after the date of grant. An ISO granted to a Ten Percent Shareholder (as defined in the 2013 Plan) or a corresponding SAR that relates to such an ISO may not be exercisable more than five years after the date of grant.

Compliance With Applicable Law. No award shall be exercisable, vested or payable except in compliance with all applicable federal and state laws and regulations (including, without limitation, tax and securities laws), any listing agreement with any stock exchange to which we are a party, and the rules of all domestic stock exchanges on which our shares may be listed.

Payment. The exercise or purchase price of an award, and any taxes required to be withheld with respect to an award, may be paid in cash or, if the written agreement so provides, the Compensation Committee may allow a participant to pay all or part of the exercise or purchase

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price, and any required withholding taxes, by tendering shares of common stock, through a broker-assisted cashless exercise, by means of net exercise procedure, or any other specified medium of payment.

Shareholder Rights. No participant shall have any rights as our shareholder as a result of issuance of an award until the award is settled by the issuance of common stock (other than a Restricted Stock Award or RSUs for which certain shareholder rights may be granted).

Forfeiture Provisions. Awards do not confer upon any individual any right to continue in our employ or service or in the employ or service of our Affiliates. All rights to any award that a participant has will be immediately forfeited if the participant is discharged from employment or service for Cause (as defined in the 2013 Plan).

Types of awards

Options. Both ISOs and NQSOs may be granted under the 2013 Plan. Our Compensation Committee determines the eligible individuals to whom grants of Options will be made, the number of shares subject to each option, the exercise price per share, the time or times at which the option may be exercised, whether any performance or other conditions must be satisfied before a participant may exercise an option, the method of payment by the participant, the method of delivery of shares to a participant, whether the Option is an ISO or a NQSO, and all other terms and conditions of the award. However, the exercise price of an Option may not be less than the fair market value of a share of common stock on the date the Option is granted. No participant may be granted ISOs that are first exercisable in any calendar year for shares of common stock having an aggregate fair value (determined on the date of grant) that exceeds $100,000. With respect to an ISO granted to a participant who is a Ten Percent Shareholder (as defined in the 2013 Plan), the exercise price per share may not be less than 110 percent of the fair market value of the common stock on the date the Option is granted. At the Compensation Committee s discretion, an Option may be granted with or without a Corresponding SAR (as defined below).

SARs. A SAR entitles the participant to receive, upon exercise, the excess of the fair market value on that date of each share of common stock subject to the exercised portion of the SAR over the fair market value of each such share on the date of the grant of the SAR. A SAR can be granted alone or in tandem with an Option. A SAR granted in tandem with an Option is called a Corresponding SAR and entitles the participant to exercise the Option or the SAR, at which time the other tandem award expires with respect to the number of shares being exercised. The Compensation Committee is authorized to determine the eligible individuals to whom grants of SARs will be made, the number of shares of common stock covered by the grant, the time or times at which a SAR may be exercised and all other terms and conditions of the SAR. However, no participant may be granted Corresponding SARs that are related to ISOs which are first exercisable in any calendar year for shares of common stock having an aggregate fair market value (determined on the date of grant) that exceeds $100,000.

Restricted Stock Awards and RSUs. A Restricted Stock Award is the grant or sale of shares of common stock, which may be subject to forfeiture for a period of time or subject to certain conditions. An RSU entitles the participant to receive, upon vesting, shares of our common stock. We will deliver to the participant one share of common stock for each RSU that becomes earned and payable. With regard to Restricted Stock Awards, the Compensation Committee is authorized to determine the eligible individuals to whom grants will be made, the number of shares subject

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to such grants, the purchase price, if any, to be paid for each share subject to the award of restricted stock, the time or times at which the restrictions will terminate, and all other terms and conditions of the restricted stock. With regards to RSUs, the Compensation Committee is authorized to determine the eligible individuals to whom grants will be made, the number of shares subject to such grants and the vesting conditions entitling a participant to settlement of the RSUs.

Incentive Awards. An Incentive Award entitles the participant to receive cash or common stock when certain conditions are met. The Compensation Committee has the authority to determine the eligible individuals to whom grants will be made and all other terms and conditions of the Incentive Award.

Stock-Based Awards. Stock-Based Awards may be denominated or payable in, valued by reference to or otherwise based on shares of common stock, including awards convertible or exchangeable into shares of common stock (or the cash value thereof) and common stock purchase rights and awards valued by reference to the fair market value of the common stock. The Compensation Committee has the authority to determine the eligible individuals to whom grants will be made and all other terms and conditions of Stock-Based Awards. However, the purchase price for the common stock under any Stock-Based Award in the nature of a purchase right may not be less than the fair market value of a share of common stock as of the date the award is granted. Cash awards, as an element of or supplement to any other award under the 2013 Plan, may also be granted.

Our Compensation Committee is also authorized under the 2013 Plan to grant shares of common stock as a bonus, or to grant shares of common stock or other awards in lieu of any of our obligations or of our affiliates to pay cash or to deliver other property under the 2013 Plan or under any other of our plans or compensatory arrangements or any of our affiliates.

Dividend Equivalents. Our Compensation Committee may also grant Dividend Equivalents under the 2013 Plan. A Dividend Equivalent is an award that entitles the participant to receive cash, shares of common stock, other awards or other property equal in value to all or a specified portion of dividends paid with respect to shares of our common stock. The Compensation Committee is authorized to determine the eligible individuals to whom grants will be made and all other terms and conditions of the Dividend Equivalents. However, no Dividend Equivalents may be awarded with an Option, SAR or Stock-Based Award in the nature of purchase rights.

Material terms of the performance-based compensation

Awards that are paid to Named Executive Officers (as defined in the 2013 Plan) are potentially subject to the tax deduction limitations of Section 162(m) of the Code. The limitations of Section 162(m) of the Code do not apply, however, to performance-based compensation that meets certain requirements, including shareholder approval of the eligibility requirements, business criteria for performance goals and individual award limits of the 2013 Plan pursuant to which such awards are made.

Eligibility. Any of our employees or service providers, employees or service providers of our Affiliates (as defined in the 2013 Plan), and nonemployee members of our board of directors or of any board of directors of our Affiliates is eligible to receive an award under the 2013 Plan.

Award Limits. In any calendar year, no participant may be granted awards that relate to more than 1,000,000 shares of Common Stock. For these purposes, an Option and its corresponding

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SAR will be counted as a single award. For any award stated with reference to a specific dollar limit, the maximum amount payable with respect to any 12-month performance period to any one participant is $5,000,000 (pro-rated up or down for performance periods greater or less than 12 months). Award limits that are expressed as a number of shares are subject to the adjustment provisions of the 2013 Plan as described below.

Performance Criteria. Our Compensation Committee has the discretion to establish objectively determinable performance conditions for when awards will become vested, exercisable and payable. Objectively determinable performance conditions generally are performance conditions (a) that are established in writing (i) at the time of the grant or (ii) no later than the earlier of (x) 90 days after the beginning of the period of service to which they relate and (y) before the lapse of 25 percent of the period of service to which they relate; (b) that are uncertain of achievement at the time they are established and (c) the achievement of which is determinable by a third party with knowledge of the relevant facts. These performance conditions may be based on one or any combination of metrics related to our financial, market or business performance. The form of the performance conditions also may be measured on a company, affiliate, division, business unit or geographic basis, individually, alternatively or in any combination, subset or component thereof. Performance goals may reflect absolute entity performance or a relative comparison of entity performance to the performance of a peer group of entities or other external measure of the selected performance conditions. Profits, earnings and revenues used for any performance condition measurement may exclude any extraordinary or nonrecurring items. The performance conditions may, but need not, be based upon an increase or positive result under the aforementioned business criteria and could include, for example and not by way of limitation, maintaining the status quo or limiting the economic losses (measured, in each case, by reference to the specific business criteria). An award that is intended to become exercisable, vested or payable on the achievement of performance conditions means that the award will not become exercisable, vested or payable solely on mere continued employment or service. However, such an award, in addition to performance conditions, may be subject to continued employment or service by the participant. The performance conditions may include any or any combination of the following: (a) revenue, (b) earnings before interest, taxes, depreciation and amortization, or EBITDA, (c) cash earnings (earnings before amortization of intangibles), (d) operating income, (e) pre-or after-tax income, (f) earnings per share, (g) net cash flow, (h) net cash flow per share, (i) net earnings, (j) return on equity, (k) return on total capital, (l) return on sales, (m) return on net assets employed, (n) return on assets or net assets, (o) share price performance, (p) total shareholder return, (q) improvement in or attainment of expense levels, (r) improvement in or attainment of working capital levels, (s) net sales, (t) revenue growth or product revenue growth, (u) operating income (before or after taxes), (v) pre-or after-tax income (before or after allocation of corporate overhead and bonus), (w) earnings per share; (x) return on equity, (y) appreciation in and/or maintenance of the price of the shares of Common, (z) market share, (aa) gross profits, (bb) comparisons with various stock market indices; (cc) reductions in cost, (dd) cash flow or cash flow per share (before or after dividends), (ee) return on capital (including return on total capital or return on invested capital), (ff) cash flow return on investments; (gg) improvement in or attainment of expense levels or working capital levels, and/or (hh) shareholder equity.

The foregoing performance conditions represent the criteria on which performance goals may be based under the 2013 Plan for awards that are intended to qualify for the qualified performance-based compensation exception to Section 162(m) of the Code. At its sole

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discretion, our Compensation Committee may grant an award that is subject to the achievement or satisfaction of performance conditions that are not set forth in the 2013 Plan to the extent our Compensation Committee does not intend for such award to constitute qualified performance-based compensation within the meaning of Section 162(m) of the Code.

Our Compensation Committee has the discretion to select one or more periods of time over which the attainment of one or more of the foregoing performance conditions will be measured for the purpose of determining when an award will become vested, exercisable or payable. The Compensation Committee has the authority to adjust goals and awards in the manner set forth in the 2013 Plan.

Change in Control. In the event of a Change in Control (as defined in the 2013 Plan) and, with respect to awards that are subject to Section 409A of the Internal Revenue Code of 1986, as amended, or the Code, and such awards, 409A Awards, only to the extent permitted by Section 409A of the Code, our Compensation Committee in its discretion may, on a participant-by-participant basis (a) accelerate the vesting of all unvested and unexercised Options, SARs or Stock-Based Awards in the nature of purchase rights and/or terminate such awards, without any payment therefore, immediately prior to the date of any such transaction after giving the participant at least seven days written notice of such actions; (b) fully vest and/or accelerate settlement of any awards; (c) terminate any outstanding Options, SARs or Stock-Based Awards in the nature of purchase rights after giving the participant notice and a chance to exercise such awards (to the extent then exercisable or exercisable upon the change in control); (d) cancel any portion of an outstanding award that remains unexercised or is subject to restriction or forfeiture in exchange for a cash payment to the participant of the value of the award; or (e) require that the award be assumed by the successor corporation or replaced with interests of an equal value in the successor corporation.

Amendment and Termination. The 2013 Plan expires 10 years after its effective date, unless terminated earlier by our board of directors. Any award that is outstanding as of the date the 2013 Plan expires will continue in force according to the terms set out in the award agreement. Our board of directors may terminate, amend or modify the 2013 Plan at any time. However, shareholder approval may be required for certain types of amendments under applicable law or regulatory authority. Except as may be provided in an award agreement or the 2013 Plan, no amendment to the 2013 Plan may adversely affect the terms and conditions of any existing award in any material way without the participant s consent.

An amendment will be contingent on approval of our shareholders, to the extent required by law, by the rules of any stock exchange on which our securities are then traded or if the amendment would (i) increase the benefits accruing to participants under the 2013 Plan, including without limitation, any amendment to the 2013 Plan or any agreement to permit a re-pricing or decrease in the exercise price of any outstanding awards, (ii) increase the aggregate number of shares of common stock that may be issued under the 2013 Plan, (iii) modify the requirements as to eligibility for participation in the 2013 Plan or (iv) change the stated performance conditions for performance-based compensation within the meaning of Section 162(m) of the Code. Additionally, to the extent the Compensation Committee deems necessary for the 2013 Plan to continue to grant awards that are intended to comply with the performance-based exception to the deduction limits of Section 162(m) of the Code, the Compensation Committee will submit the material terms of the stated performance conditions to our shareholders for approval no later than the first shareholder meeting that occurs in the fifth year following the year in which our shareholders previously approved the performance goals.

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Material U.S. federal income tax consequences of awards under the 2013 Plan

The following discussion summarizes the principal federal income tax consequences associated with awards under the 2013 Plan. The discussion is based on laws, regulations, rulings and court decisions currently in effect, all of which are subject to change.

ISOs. A participant will not recognize taxable income on the grant or exercise of an ISO (although the excess of the fair market value of the common stock over the exercise price will be included for alternative minimum tax purposes). A participant will recognize taxable income when he or she disposes of the shares of common stock acquired under the ISO. If the disposition occurs more than two years after the grant of the ISO and more than one year after its exercise, the participant will recognize long-term capital gain (or loss) to the extent the amount realized from the disposition exceeds (or is less than) the participant s tax basis in the shares of common stock. A participant s tax basis in the common stock generally will be the amount the participant paid for the stock. If common stock acquired under an ISO is disposed of before the expiration of the ISO holding period described above, the participant will recognize as ordinary income in the year of the disposition the excess of the fair market value of the common stock on the date of exercise of the ISO over the exercise price. Any additional gain will be treated as long-term or short-term capital gain, depending on the length of time the participant held the shares. Special rules apply if a participant pays the exercise price by delivery of common stock. We will not be entitled to a federal income tax deduction with respect to the grant or exercise of an ISO. However, in the event a participant disposes of common stock acquired under an ISO before the expiration of the ISO holding period described above, we generally will be entitled to a federal income tax deduction equal to the amount of ordinary income the participant recognizes.

NQSOs. A participant will not recognize any taxable income on the grant of a NQSO. On the exercise of a NQSO, the participant will recognize as ordinary income the excess of the fair market value of the common stock acquired over the exercise price. A participant s tax basis in the common stock is the amount paid plus any amounts included in income on exercise. Special rules apply if a participant pays the exercise price by delivery of common stock. The exercise of a NQSO generally will entitle us to claim a federal income tax deduction equal to the amount of ordinary income the participant recognizes.

SARs. A participant will not recognize any taxable income at the time SARs are granted. The participant at the time of receipt will recognize as ordinary income the amount of cash and the fair market value of the common stock that he or she receives. We generally will be entitled to a federal income tax deduction equal to the amount of ordinary income the participant recognizes.

Restricted Stock Awards and RSUs. With regard to Restricted Stock Awards, a participant will recognize ordinary income on account of a Restricted Stock Award on the first day that the shares are either transferable or not subject to a substantial risk of forfeiture. The ordinary income recognized will equal the excess of the fair market value of the common stock on such date over the price, if any, paid for the stock. However, even if the shares under a Restricted Stock Award are both nontransferable and subject to a substantial risk of forfeiture, the participant may make a special 83(b) election to recognize income, and have his or her tax consequences determined, as of the date the Restricted Stock Award is made. The participant s tax basis in the shares received will equal the income recognized plus the price, if any, paid for the Restricted Stock Award. We generally will be entitled to a federal income tax deduction equal to the ordinary income the participant recognizes. With regard to RSUs, the participant will not recognize any taxable income at the time RSUs are granted. When the terms and conditions

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to which the RSUs are subject have been satisfied and the RSUs are paid, the participant will recognize as ordinary income the fair market value of the common stock he or she receives. We generally will be entitled to a federal income tax deduction equal to the ordinary income the participant recognizes.

Incentive Awards. A participant will not recognize any taxable income at the time an Incentive Award is granted. When the terms and conditions to which an Incentive Award is subject have been satisfied and the award is paid, the participant will recognize as ordinary income the amount of cash and the fair market value of the common stock he or she receives. We generally will be entitled to a federal income tax deduction equal to the amount of ordinary income the participant recognizes, subject to the deduction conditions and limits applicable under Section 162(m) of the Code.

Stock-Based Awards. A participant will recognize ordinary income on receipt of cash or shares of common stock paid with respect to a Stock-Based Award. We generally will be entitled to a federal tax deduction equal to the amount of ordinary income the participant recognizes.

Dividend Equivalents. A participant will recognize as ordinary income the amount of cash and the fair market value of any common stock he or she receives on payment of the Dividend Equivalents. To the extent the Dividend Equivalents are paid in the form of other awards, the participant will recognize income as otherwise described herein.

Limitation on Deductions. The deduction for a publicly-held corporation for otherwise deductible compensation to a covered employee generally is limited to $1,000,000 per year. An individual is a covered employee if he or she is the chief executive officer or one of the three highest compensated officers for the year (other than the chief executive officer or chief financial officer). The $1,000,000 limit does not apply to compensation payable solely because of the attainment of performance conditions that meet the requirements set forth in Section 162(m) of the Code and the underlying regulations. Compensation is considered performance-based only if (a) it is paid solely on the achievement of one or more performance conditions; (b) two or more outside directors set the performance conditions; (c) before payment, the material terms under which the compensation is to be paid, including the performance conditions, are disclosed to, and approved by, the shareholders and (d) before payment, two or more outside directors certify in writing that the performance conditions have been met. The 2013 Plan has been designed to enable the Compensation Committee to structure awards that are intended to meet the requirements for performance-based compensation that would not be subject to the $1,000,000 per year deduction limit.

Other Tax Rules. The 2013 Plan is designed to enable our Compensation Committee to structure awards that will not be subject to Section 409A of the Code, which imposes certain restrictions and requirements on deferred compensation. However, our Compensation Committee may grant awards that are subject to Section 409A of the Code. In that case, the terms of such 409A Award will be (a) subject to the deferral election requirements of Section 409A of the Code; and (b) may only be paid upon a separation from service, a set time, death, disability, a change in control or an unforeseeable emergency, each within the meanings of Section 409A of the Code. Our Compensation Committee shall not have the authority to accelerate or defer a 409A Award other than as permitted by Section 409A of the Code. Moreover, any payment on a separation from service of a Specified Employee (as defined in the 2013 Plan) will not be made until six months following the participant s separation from service (or upon the participant s death, if earlier) as required by Section 409A of the Code.

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Equity compensation plan information

The following table provides certain information with respect to our 2008 Plan and 2013 Plan as of December 31, 2013:

Number of securities to be issued upon exercise of outstanding options, warrants and rights(a)(1)	Weighted-average exercise price of outstanding options, warrants and rights (b)(1)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a) (c)(1)
2,840,648	$ 8.27	6,714,000

(1) Excludes securities to be issued upon exercise of 414,404 warrants at a weighted-average exercise price per share of $0.79 issued in conjunction with the acquisition of Agarigen, Inc. in 2011.

401(k) Plan

We provide a 401(k) Plan to all eligible employees as defined in the plan. Subject to annual limits set by the Internal Revenue Service, we match 100 percent of eligible employee contributions up to a maximum of 3 percent of an employee s salary and vesting in our match is ratable over three years from an employee s date of employment.

Limitation of liability and indemnification

Our amended and restated articles of incorporation provide that we will indemnify our directors and officers with respect to certain liabilities, expenses and other amounts imposed upon them because of having been a director or officer, except in the case of willful misconduct or a knowing violation of criminal law. See the Description of capital stock Indemnification and limitation of directors and officers liability section of this prospectus for a further discussion of these arrangements.

Non-employee director compensation

Through May 9, 2013, all non-employee directors received annual compensation of $10,000, payable at the first meeting of the board of directors for the calendar year, and an additional $1,500 per meeting. Members of a board committee received $1,500 per committee meeting that did not take place in connection with a full meeting of the board of directors. Non-employee directors had the option in lieu of cash to receive payments in shares of common stock (valued at the fair market value at the time of issuance). Newly appointed non-employee directors received a one-time grant of options to purchase 22,857 shares of common stock (with an exercise price equal to the fair market value on the date of grant) with one-fourth of such options vesting each year on the anniversary of appointment to the board of directors. All non-employee directors received an annual grant of options to purchase 2,857 shares of common stock (with an exercise price equal to the fair market value on the date of grant), with one-fourth of such options vesting on January 1st of each year.

On May 9, 2013, the board of directors adopted an updated non-employee director compensation plan, to be effective as of the next meeting of the board of directors. Under the plan, all non-employee directors receive annual compensation of $35,000, payable at the first meeting of the board of directors for the calendar year, and an additional $1,500 per meeting ($750 per special telephonic meeting). Each board committee chair receives $5,000 annually, payable at the first regularly scheduled meeting of the board of directors for the calendar year

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and members of a board committee receive $750 per committee meeting. Non-employee directors also receive reimbursement for reasonable expenses incurred in attending board of directors and committee meetings. Non-employee directors have the option in lieu of cash to receive payments in shares of common stock (valued at the fair market value at the time of issuance). Newly appointed non-employee directors receive a one-time grant of options to purchase 22,857 shares of common stock (with an exercise price equal to the fair market value on the date of grant) with one-fourth of such options vesting each year on the anniversary of appointment to the board of directors, subject to continued board service. All non-employee directors are entitled to an annual grant of options to purchase 8,571 shares of common stock (with an exercise price equal to the fair market value on the date of grant), which options vest upon grant.

The following table discloses all compensation provided to the non-employee directors for the most recently completed fiscal year ending December 31, 2013:

Name(1)	Equity awards ($)(1)	Option awards ($)(2)	Total($)
Cesar L. Alvarez	$ 21,164	$ 17,898	$ 39,062
Steven Frank	$ 19,707	$ 17,898	$ 37,605
Larry D. Horner	$ 22,663	$ 17,898	$ 40,561
Jeffrey B. Kindler	$ 22,655	$ 17,892	$ 40,547
Dean J. Mitchell	$ 18,193	$ 17,898	$ 36,091
Robert B. Shapiro	$ 18,942	$ 17,892	$ 36,834

(1) Our directors may elect to take any portion of their director fees in shares of our common stock instead of cash. During 2013, all of our directors elected to take all such director fees in shares of our common stock. Represents the grant date fair market value of such stock awards computed in accordance with FASB ASC Topic 718. This amount does not reflect the actual cash value that will be recognized by each of the non-employee directors when such shares are sold.

(2) Represents the grant date fair market value of such stock awards computed in accordance with FASB ASC Topic 718. This amount does not reflect the actual cash value that will be recognized by each of the non-employee directors when such options are exercised and the underlying shares are sold. All outstanding option-based awards for the non-employee directors as of December 31, 2013, are set out in the following table:

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		Option awards			
		Number of securities underlying unexercised options			
Name	Grant date	(#) Exercisable	(#) Unexercisable	Option exercise price ($)	Option expiration date
Cesar L. Alvarez	2/20/2008	8,571		$ 2.74	2/20/2018
	2/20/2009	2,857		$ 3.29	2/20/2019
	6/30/2010	2,142	715	$ 3.29	6/30/2020
	3/7/2011	1,428	1,429	$ 5.91	3/7/2021
	12/2/2011	4,285	4,286	$ 7.12	12/2/2021
	3/15/2012	714	2,143	$ 7.12	3/15/2022
	5/28/2013		2,858	$ 9.67	5/28/2023
Steven Frank	2/20/2008	8,571		$ 2.74	2/20/2018
	2/20/2009	2,857		$ 3.29	2/20/2019
	6/30/2010	2,142	715	$ 3.29	6/30/2020
	3/7/2011	1,428	1,429	$ 5.91	3/7/2021
	12/2/2011	4,285	4,286	$ 7.12	12/2/2021
	3/15/2012	714	2,143	$ 7.12	3/15/2022
	5/28/2013		2,858	$ 9.67	5/28/2023
Larry D. Horner	2/20/2008	8,571		$ 2.74	2/20/2018
	2/20/2009	2,857		$ 3.29	2/20/2019
	6/30/2010	2,142	715	$ 3.29	6/30/2020
	3/7/2011	1,428	1,429	$ 5.91	3/7/2021
	12/2/2011	4,285	4,286	$ 7.12	12/2/2021
	3/15/2012	714	2,143	$ 7.12	3/15/2022
	5/28/2013		2,858	$ 9.67	5/28/2023
Jeffrey B. Kindler	12/2/2011	11,428	11,429	$ 7.12	12/2/2021
	3/15/2012	714	2,143	$ 7.12	3/15/2022

	5/28/2013		2,857	$ 9.67	5/28/2023
Dean J. Mitchell	3/17/2009	8,571		$ 3.29	3/17/2019
	6/30/2010	2,142	715	$ 3.29	6/30/2020
	3/7/2011	1,428	1,429	$ 5.91	3/7/2021
	12/2/2011	4,285	4,286	$ 7.12	12/2/2021
	3/15/2012	714	2,143	$ 7.12	3/15/2022
	5/28/2013		2,858	$ 9.67	5/28/2023
Robert B. Shapiro	12/2/2011	11,428	11,429	$ 7.12	12/2/2021
	3/15/2012	714	2,143	$ 7.12	3/15/2022
	5/28/2013		2,857	$ 9.67	5/28/2023

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Certain relationships and related party transactions of Intrexon

The following is a description of transactions since January 1, 2010 to which we have been a party, in which the amount involved exceeded or will exceed $120,000, and in which any of our directors, executive officers or beneficial owners of more than five percent of our voting securities, or affiliates or immediate family members of any of our directors, executive officers or beneficial owners of more than five percent of our voting securities, had or will have a direct or indirect material interest.

Our Company has historically been owned, funded and managed by, Randal J. Kirk, our Chief Executive Officer, and affiliates of Mr. Kirk, for the purpose of exploiting our synthetic biotechnology. As a result, we have engaged in a variety of financial and operational transactions with Mr. Kirk and these affiliates. In accordance with the requirements of the SEC, we describe below all such transactions in which we have engaged since January 1, 2010. All of these transactions have been approved by a majority of the independent and disinterested members of the board of directors.

We believe that each of these transactions were on terms no less favorable to us than terms we could have obtained from unaffiliated third parties. It is our intention to ensure that all future transactions, if any, between us and our officers, directors, principal shareholders and their affiliates or immediate family members, are approved by the nominating and governance committee or a majority of the independent and disinterested members of the board of directors, and are on terms no less favorable to us than those that we could obtain from unaffiliated third parties.

Participation in our initial public offering

Randal J. Kirk, our Chairman, President and Chief Executive Officer, on behalf of himself and certain of his affiliates, purchased an aggregate of $30.0 million in shares of our common stock, or 1,875,000 shares of the 9,999,999 shares of common stock sold in our initial public offering, at the initial public offering price. The underwriters received the same underwriting discount on the shares purchased by Mr. Kirk and these affiliates as they did on the other shares sold to the public in the initial public offering.

Private placements of securities

We have funded our operations over the past four years principally with proceeds from private placements of our preferred stock. Since January 1, 2010, we issued and sold an aggregate of 19,803,685 shares of our Series D convertible preferred stock at a purchase price per share of $3.38 for an aggregate purchase price of $66.9 million, 38,095,239 shares of our Series E convertible preferred stock at a purchase price per share of $5.25 for an aggregate purchase price of $200.0 million, and 19,047,619 shares of our Series F preferred stock at a purchase price per share of $7.88 for an aggregate purchase price of $150.0 million.

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The following table sets forth the number of shares of preferred stock that were issued to our directors, executive officers and holders of more than five percent of our voting securities, and affiliates or immediate family members of our directors, executive officers and holders of more than five percent of our voting securities, in connection with our various preferred stock financings and the aggregate cash purchase price paid by such persons and entities. Each share of preferred stock in the table below converted into one share of our common stock upon completion of our initial public offering.

Purchaser	Date of purchase	Class of preferred stock	Number of shares purchased (#)	Price per share ($)	Aggregate consideration ($)
Kirkfield, L.L.C.(1)(2)	February 19, 2010	Series D	2,958,580	3.38	10,000,000
Marcus E. Smith(3)	February 19, 2010	Series D	14,793	3.38	50,000
Robert M. Patzig(3)	February 19, 2010	Series D	7,397	3.38	25,002
Melodye A. Koppler(4)	February 19, 2010	Series D	10,000	3.38	33,800
Clifton Herndon II(3)	February 19, 2010	Series D	7,500	3.38	25,350
Shelly B. Fisher(5)	February 19, 2010	Series D	5,000	3.38	16,900
Jeffrey T. Perez(3)	February 19, 2010	Series D	6,000	3.38	20,280
Robert P. Beech(6)	February 19, 2010	Series D	2,959	3.38	10,001
Ronald B. Herberman(7)	February 19, 2010	Series D	15,000	3.38	50,700
Thomas David Reed Living Trust(8)	October 29, 2010	Series D	1,480	3.38	5,002
Shelly B. Fisher(5)	October 29, 2010	Series D	3,000	3.38	10,140
NRM VI Holdings I, LLC(9)	October 29, 2010	Series D	4,437,870	3.38	15,000,001
Robert M. Patzig(3)	October 29, 2010	Series D	14,793	3.38	50,000
Melodye A. Koppler(4)	October 29, 2010	Series D	10,000	3.38	33,800
John F. Fisher(10)	October 29, 2010	Series D	4,438	3.38	15,000
Donald P. Lehr(11)	October 29, 2010	Series D	14,793	3.38	50,000
Darryl Webster(12)	October 29, 2010	Series D	15,000	3.38	50,700
Ronald B. Herberman(7)	October 29, 2010	Series D	10,000	3.38	33,800
Kirkfield, L.L.C.(1)(2)	January 6, 2011	Series D	2,958,580	3.38	10,000,000
Clifton Herndon II(3)	January 6, 2011	Series D	10,000	3.38	33,800
Melodye A. Koppler(4)	January 6, 2011	Series D	10,000	3.38	33,800
Jeffrey T. Perez(3)	January 6, 2011	Series D	1,500	3.38	5,070
Marcus E. Smith(3)	January 6, 2011	Series D	10,000	3.38	33,800
Robert M. Patzig(3)	January 6, 2011	Series D	7,000	3.38	23,660
Ronald B. Herberman(7)	January 6, 2011	Series D	10,000	3.38	33,800
Kirkfield, L.L.C.(1)(2)	February 18, 2011	Series D	591,716	3.38	2,000,000
JPK 2008, LLC(1)	February 18, 2011	Series D	44,518	3.38	150,471
JPK 2009, LLC(1)	February 18, 2011	Series D	212,387	3.38	717,868
MGK 2008, LLC(1)	February 18, 2011	Series D	45,445	3.38	153,604
MGK 2009, LLC(1)	February 18, 2011	Series D	231,864	3.38	783,700
ZSK 2008, LLC(1)	February 18, 2011	Series D	22,259	3.38	75,235
ZSK 2009, LLC(1)	February 18, 2011	Series D	35,243	3.38	119,121
Jeffrey T. Perez(3)	February 25, 2011	Series D	3,000	3.38	10,140
Shelly B. Fisher(5)	February 25, 2011	Series D	5,000	3.38	16,900
Melodye A. Koppler(4)	February 25, 2011	Series D	10,000	3.38	33,800
Donald P. Lehr(11)	February 25, 2011	Series D	7,397	3.38	25,002
Kirkfield L.L.C.(1)(2)	February 25, 2011	Series D	416,312	3.38	1,407,135
JPK 2008, LLC(1)	February 25, 2011	Series D	31,321	3.38	105,865
JPK 2009, LLC(1)	February 25, 2011	Series D	149,428	3.38	505,067
MGK 2008, LLC(1)	February 25, 2011	Series D	31,974	3.38	108,072
MGK 2009, LLC(1)	February 25, 2011	Series D	163,131	3.38	551,383
ZSK 2008, LLC(1)	February 25, 2011	Series D	24,796	3.38	83,810
ZSK 2009, LLC(1)	February 25, 2011	Series D	15,661	3.38	52,934

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Purchaser	Date of purchase	Class of preferred stock	Number of shares purchased (#)	Price per share ($)	Aggregate consideration ($)
R.J. Kirk Declaration of Trust(1)	May 26, 2011	Series E	2,976,756	5.25	15,627,969
Third Security Incentive 2010 LLC(1)(13)	May 26, 2011	Series E	958,680	5.25	5,033,070
Third Security Senior Staff 2008 LLC(1)(14)	May 26, 2011	Series E	1,917,360	5.25	10,066,140
Third Security Staff 2010 LLC(1)(14)	May 26, 2011	Series E	1,917,360	5.25	10,066,140
JPK 2008, LLC(1)	May 26, 2011	Series E	49,980	5.25	262,395
JPK 2009, LLC(1)	May 26, 2011	Series E	422,375	5.25	2,217,469
MGK 2008, LLC(1)	May 26, 2011	Series E	49,980	5.25	262,395
MGK 2009, LLC(1)	May 26, 2011	Series E	448,185	5.25	2,352,971
ZSK 2008, LLC(1)	May 26, 2011	Series E	40,968	5.25	215,082
ZSK 2009, LLC(1)	May 26, 2011	Series E	38,510	5.25	202,178
NRM VI Holdings I, LLC(9)	December 23, 2011	Series E	3,047,620	5.25	16,000,005
Kapital Joe, LLC(1)	January 10, 2012	Series E	4,344,964	5.25	22,811,061
Larry D. Horner(15)	January 10, 2012	Series E	100,000	5.25	525,000
Robert B. Shapiro Revocable Trust(16)	January 10, 2012	Series E	66,667	5.25	350,002
Cesar L. Alvarez(15)	January 10, 2012	Series E	95,238	5.25	500,000
Robert M. Patzig(3)	January 10, 2012	Series E	4,750	5.25	24,938
Jeffrey Kindler(15)	January 10, 2012	Series E	20,000	5.25	105,000
Kapital Joe, LLC(1)	April 12, 2012	Series E	678,806	5.25	3,563,732
MGK 2011, LLC(1)	April 12, 2012	Series E	452,537	5.25	2,375,819
Robert B. Shapiro Revocable Trust(16)	April 12, 2012	Series E	66,667	5.25	350,002
John F. Fisher(10)	April 12, 2012	Series E	4,765	5.25	25,016
Mascara Kaboom, LLC(1)	October 26, 2012	Series E	1,904,762	5.25	10,000,000
Mascara Kaboom, LLC(1)	November 13, 2012	Series E	2,715,309	5.25	14,255,372
Kapital Joe, LLC(1)	March 1, 2013	Series F	1,904,762	7.88	15,000,001
Mascara Kaboom, LLC(1)	March 1, 2013	Series F	1,904,762	7.88	15,000,001
Kapital Joe, LLC(1)	April 30, 2013	Series F	1,149,474	7.88	9,052,108
Mascara Kaboom, LLC(1)	April 30, 2013	Series F	1,149,474	7.88	9,052,108
Third Security Senior Staff 2008 LLC(1)	April 30, 2013	Series F	299,532	7.88	2,358,815
Third Security Staff 2010, LLC(1)	April 30, 2013	Series F	299,532	7.88	2,358,815
Third Security Incentive 2010, LLC(1)	April 30, 2013	Series F	149,766	7.88	1,179,407
JPK 2008, LLC(1)	April 30, 2013	Series F	42,794	7.88	337,003
JPK 2009, LLC(1)	April 30, 2013	Series F	312,890	7.88	2,464,009
JPK 2012, LLC(1)	April 30, 2013	Series F	128,508	7.88	1,012,001
Kellie L. Banks (2009) Long Term Trust(1)	April 30, 2013	Series F	19,808	7.88	155,988
MGK 2008, LLC(1)	April 30, 2013	Series F	42,794	7.88	337,003
MGK 2009, LLC(1)	April 30, 2013	Series F	362,286	7.88	2,853,002
MGK 2011, LLC(1)	April 30, 2013	Series F	141,588	7.88	1,115,006
ZSK 2008, LLC(1)	April 30, 2013	Series F	39,492	7.88	311,000
ZSK 2009, LLC(1)	April 30, 2013	Series F	33,016	7.88	260,001
Jeffrey Kindler(15)	April 30, 2013	Series F	12,700	7.88	100,013

(1) An affiliate of Mr. Kirk.

(2) Of the shares originally purchased by Kirkfield, L.L.C., 6,216,638 shares were subsequently transferred to affiliates of Mr. Kirk and an additional 708,550 shares were transferred to non-affiliates

(3) A managing director of Third Security, LLC, which is an affiliate of Mr. Kirk.

(4) Spouse of Doit L. Koppler, a managing director of Third Security, LLC, which is an affiliate of Mr. Kirk.

(5) Spouse of Theodore J. Fisher, a managing director of Third Security, LLC, which is an affiliate of Mr. Kirk.

(6) Previously served as our Chief Executive Officer.

(7) Previously served as our Chief Medical Officer

(8) Affiliate of Thomas D. Reed, a member of our board of directors and chief science officer.

(9) A private equity fund affiliated with Mr. Kirk.

(10) Father of Theodore J. Fisher, a managing director of Third Security, LLC, which is an affiliate of Mr. Kirk.

(11) Our Chief Legal Officer.

(12) Our Senior Vice President of Intellectual Property.

(13) Of these shares, 577,727 were issued pursuant to the conversion of convertible bridge notes with outstanding principal and interest of $3,033,067 on the date of conversion. The remaining 380,953 of these shares were purchased for cash.

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(14) Of these shares, 1,155,454 were issued pursuant to the conversion of convertible bridge notes with outstanding principal and interest of $6,066,133. The remaining 761,906 of these shares were purchased for cash.

(15) A member of our board of directors.

(16) An affiliate of Robert B. Shapiro.

Transactions with Third Security, LLC and affiliates

2011 promissory notes

On April 8, 2011, we issued convertible promissory notes to certain affiliates of Mr. Kirk in connection with a bridge financing. Third Security Staff 2010 LLC and Third Security Senior Staff 2008 LLC each purchased a convertible promissory note with an original outstanding principal balance of up to $10,000,000, and Third Security Incentive 2010 LLC purchased a convertible promissory note with an original outstanding principal balance of up to $5,000,000. The notes had a simple interest rate of 12 percent per annum and were structured to automatically convert into our Series E preferred stock at the same per share price paid by the other investors in our Series E convertible preferred stock. On May 26, 2011, at the initial closing of the issuance of our Series E preferred stock, all of the outstanding principal and interest on these notes converted into shares of Series E preferred stock at a conversion rate of $5.25 per share of Series E preferred stock. The notes held by Third Security Staff 2010 LLC and Third Security Senior Staff 2008 LLC each had an outstanding principal and interest balance of $6,066,133 and each converted into 1,155,454 shares of our Series E preferred stock on May 26, 2011. The notes held by Third Security Incentive 2010 LLC had an outstanding principal and interest balance of $3,033,067 and converted into 577,727 shares of our Series E preferred stock on May 26, 2011. All shares of Series E preferred stock issued as a result of these conversions are included in the table under Private placements of securities section above.

Halozyme

Effective June 6, 2011, we entered into a collaboration and license agreement with Halozyme Therapeutics, Inc., or Halozyme, under which Halozyme granted to us a worldwide exclusive license for the use of rHuPH20 enzyme in the development of a subcutaneous injectable formulation of our recombinant human alpha 1-antitrypsin. Mr. Kirk is a member of Halozyme s board of directors. Prior to the transaction, Mr. Kirk beneficially owned 15,387,869 shares of Halozyme s common stock, and as of December 31, 2013, beneficially owned 19,801,286 shares, or 17.4 percent of Halozyme s common stock. Pursuant to the agreement, we paid a nonrefundable upfront license fee of $9,000,000 to Halozyme. In addition, so long as the agreement is in effect, we are required to pay an annual exclusivity fee of $1,000,000 to Halozyme beginning on June 6, 2012 and continuing on each anniversary of the effective date of the agreement thereafter until a certain development event occurs. Halozyme is entitled to receive payments from us for research and development services and supply of rHuPH20 active pharmaceutical ingredient we request. In addition, Halozyme is entitled to receive additional cash payments from us potentially totaling $44,000,000 for each product for use in a specified field and $10,000,000 for each product for use outside that specified field upon achievement of development and regulatory milestones with respect to those products. Halozyme also is entitled to receive royalty payments in the high single to lower double digits from us on product sales at a royalty rate which increases based upon increases in net sales of product and a cash payment of $10,000,000 upon our achievement of a specified sales volume of product sales. Unless terminated earlier in accordance with its terms, the agreement continues in effect until the later of (i) expiration of the last to expire of the valid claims of Halozyme patents covering rHuPH20 or

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other specified patents developed under the collaboration which valid claim covers a product developed under the collaboration, and (ii) expiration of the last to expire royalty term for a product developed under the collaboration. The royalty term of a product developed under the agreement, with respect to each country, consists of the period equal to the longer of: (a) the duration of any valid claim of Halozyme patents covering rHuPH20 or other specified patents developed under the collaboration which valid claim covers the product in such country or (b) 10 years following the date of the first commercial sale of such product in such country. We may terminate the agreement prior to expiration for any reason on a product-by-product basis upon 90 days prior written notice to Halozyme.

Cyntellect

Effective August 31, 2011, we acquired certain assets and assumed certain liabilities of Cyntellect, Inc. in exchange for 2,386,803 shares of our common stock valued at $17,000,000. At the time of the purchase, Mr. Kirk was a member of the board of directors of Cyntellect. Prior to the purchase, affiliate entities of Mr. Kirk, NRM VI Holdings I, LLC and New River Management V, LP, held notes with outstanding balances of $4.2 million and $12 million, respectively, and NRM VI Holdings I, LLC held 93.1 percent of the senior preferred stock. Following the transaction, Cyntellect distributed the 2,386,803 shares of our common stock. Due to the outstanding debt and the liquidation preference of the senior preferred stock, NRM VI Holdings I, LLC and New River Management V, LP acquired 843,432 and 1,531,866 shares, respectively, of our common stock with an approximate value at the time of $6,007,000 and $10,910,000, respectively. Through May 2012, we subleased a portion of one of our facilities to Cyntellect. The sublease included rent and a portion of applicable facility expenses.

Genopaver

Effective March 29, 2013, we entered into an ECC with Genopaver, which is a limited liability company formed for the express purpose of entering into the ECC and developing and commercializing products identified through the ECC. Genopaver is an affiliate of Third Security, LLC. Under the ECC, we received $3,000,000 as a technology access fee. We will be reimbursed for research and development services as provided for in the ECC. We are entitled to a royalty on the gross profits of product sales from a product developed from the ECC.

Chief Executive Officer position

Mr. Kirk assumed the role of our Chief Executive Officer in April 2009 and served on a part-time basis in that capacity through 2011. In 2012, Mr. Kirk began serving in this role on a full-time basis. Although Mr. Kirk has not received compensation for his service as Chief Executive Officer, we recorded $1,163,000 in compensation expense for the nine months ended September 30, 2013 and $1,550,000, $210,000, and $490,000 for the years ended December 31, 2012, 2011, and 2010, respectively, based on the estimated salary and benefits appropriate for the role.

Transactions with other shareholders

At September 30, 2013, December 31, 2012 and 2011, we leased two office facilities from a preferred shareholder. During the nine months ended September 30, 2013 and the years ended December 31, 2012 and 2011, we incurred rent and other facility expenses related to these

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facilities of $680,000, $903,000 and $783,000, respectively. During 2010, we leased one facility from this preferred shareholder and incurred rent and other facility expenses related to this facility of $595,000.

We may contract with a common shareholder to provide certain research and clinical services. During the nine months ended September 30, 2013 and the years ended December 31, 2012, 2011, and 2010 we incurred total expenses for work performed under such contracts of $52,000, $91,000, $202,000, and $597,000, respectively.

In 2011, we paid a transaction fee in conjunction with the closing of our Series E Preferred Stock to a financial services firm which employs certain of our preferred shareholders. In 2013, we paid transaction fees in conjunction with the sale of our Series F Preferred Stock to two financial services firms which employ certain of our preferred shareholders.

Transactions with ECC parties

ZIOPHARM

Pursuant to an ECC, a securities purchase agreement and a registration rights agreement, each dated as of January 6, 2011, we granted to ZIOPHARM a worldwide exclusive license to use certain specified patents and other intellectual property in the field of oncology as defined in the ECC. In consideration for this license, we received 3,636,926 shares of ZIOPHARM s outstanding common stock with a value, at the time, of $17,457,000. Concurrently, pursuant to the securities purchase agreement, we purchased an additional 2,426,235 shares of ZIOPHARM common stock with an agreed value, at the time, of $11,646,000 and we agreed to purchase up to an additional $50,000,000 of common stock in conjunction with securities offerings that may be conducted by ZIOPHARM in the future, subject to certain conditions and limitations. On February 7, 2011, we purchased 1,910,000 shares of ZIOPHARM common stock with an agreed value, at the time, of $10,983,000 in the first such securities offering and on January 20, 2012, we purchased 1,923,075 shares of ZIOPHARM common stock with an agreed value, at the time, of $10,000,000 in the second such securities offering. At December 31, 2012, we had approximately $29,000,000 remaining on our purchase commitment. On October 24, 2012, we received 3,636,926 additional shares of ZIOPHARM common stock with a value, at the time, of $18,330,000 as a result of the achievement of a clinical milestone as contemplated in the original ECC. In conjunction with the original transactions on January 6, 2011, Mr. Kirk joined the board of directors of ZIOPHARM. As of December 31, 2013, Mr. Kirk, together with his affiliates (excluding us), beneficially owned 1,450,403 shares, or 1.4 percent of ZIOPHARM s common stock. On March 21, 2012, we received $10,000,000 from ZIOPHARM as a prepayment of research and development services to be provided in conjunction with the ECC. At September 30, 2013 and December 31, 2012, $0 and $4,862,000 remained outstanding, respectively; such amount is refundable to ZIOPHARM in the event the ECC is terminated. On October 29, 2013, we purchased an additional $10.0 million in ZIOPHARM securities reducing our future obligation to purchase ZIOPHARM common stock to $19.0 million.

Synthetic Biologics

Pursuant to an ECC, a securities purchase agreement and a registration rights agreement, each dated as of November 18, 2011, we granted to Synthetic Biologics a worldwide exclusive license to use certain specified patents and other intellectual property for the treatment of pulmonary

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arterial hypertension, or PAH. In consideration for this license, we received 3,123,558 shares of Synthetic Biologics outstanding common stock with a value, at the time, of $1,687,000. Pursuant to a second ECC, dated as of August 6, 2012, we granted to Synthetic Biologics a worldwide exclusive license to use certain specified patents and other intellectual property in connection with the research, development, use, importing, manufacture, sale and offer for sale of monoclonal antibody therapies for the treatment of eight specific target infectious disease indications. In consideration for this license upon Synthetic Biologics shareholders approval on October 5, 2012, we received an additional 3,552,210 shares of Synthetic Biologics outstanding common stock with a value, at the time, of $7,815,000. On October 29, 2012, pursuant to a stock purchase agreement, an affiliate of Mr. Kirk, NRM VII Holdings I, LLC, invested $5,000,000 in Synthetic Biologics and received 3,125,000 shares of Synthetic Biologics outstanding common stock. On December 17, 2013, pursuant to a stock purchase agreement, NRM VII Holdings I, LLC invested $500,000 in Synthetic Biologics and received 500,000 shares of Synthetic Biologics common stock. As of December 31, 2013, Mr. Kirk, together with his affiliates (excluding us), beneficially owned 3,625,000 shares, or 6.3 percent of Synthetic Biologics outstanding common stock. In conjunction with the collaboration, we are entitled to, at our election, purchase up to 19.99 percent of securities offerings that may be conducted by Synthetic Biologics in the future, subject to certain conditions and limitations. Pursuant to this right, on December 17, 2013, we purchased 2,000,000 shares of Synthetic Biologics common stock with an agreed value, at the time, of $2,000,000. We have also been granted the right to make purchases of Synthetic Biologics common stock in the open market up to an additional 10 percent of Synthetic Biologics common stock. We have made no open market purchases of Synthetic Biologics common stock. On December 17, 2012, we received $2,500,000 from Synthetic Biologics as a prepayment of research and development services to be provided in conjunction with the ECC. At September 30, 2013 and December 31, 2012, $1,502,000 and $2,367,000 remained outstanding, respectively; such amount is refundable to Synthetic Biologics in the event that the August 2012 ECC is terminated.

Oragenics

Pursuant to an ECC and a stock issuance agreement, each dated as of June 5, 2012, we granted to Oragenics an exclusive license to use our proprietary technologies and other intellectual property to develop and commercialize lantibiotics for the treatment of infectious diseases in humans and companion animals. Pursuant to the stock issuance agreement, we received 4,392,425 shares of Oragenics outstanding common stock in partial consideration of this license grant with a value, at the time, of $6,588,000. On July 30, 2012, pursuant to a stock purchase agreement, an affiliate of Mr. Kirk, NRM VII Holdings I, LLC, invested $1,286,000 in Oragenics and received 857,555 shares of Oragenics outstanding common stock. On November 20, 2013, pursuant to a stock purchase agreement, NRM VII Holdings I, LLC invested $357,500 in Oragenics and received 143,000 shares of Oragenics common stock.

On September 30, 2013, we entered into a second ECC with Oragenics through which we granted to Oragenics an exclusive license to use our proprietary technologies and other intellectual property to develop and commercialize probiotics for the treatment of diseases of the oral cavity, throat, sinus and esophagus, including, but not limited to, aphthous stomatitis and Behcet s disease. Pursuant to a stock issuance agreement entered in conjunction with this second ECC, we received 1,348,000 shares of Oragenics common stock and Oragenics sold to us 1,300,000 shares of Oragenics common stock at a price per share of $3.00 for gross proceeds of $3,900,000.

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Oragenics also issued a Convertible Promissory Note to us in the principal amount of $1,956,000 which is payable, at Oragenics option, in cash or shares of Oragenics common stock and which matures on December 31, 2013. The Convertible Promissory Note was converted to 698,241 shares of Oragenics common stock on December 18, 2013.

As of December 31, 2013, Mr. Kirk, together with his affiliates (excluding us), beneficially owned 1,000,555 shares, or 2.8 percent, of Oragenics outstanding common stock. In conjunction with our first ECC with Oragenics, we are entitled to, at our election, purchase up to 30 percent of securities offerings that may be conducted by Oragenics in the future, subject to certain conditions and limitations. Pursuant to this right, on November 20, 2013, we purchased 1,100,000 shares of Oragenics common stock with an agreed value, at the time, of $2,750,000.

Fibrocell Science

Pursuant to an ECC, a stock issuance agreement and a registration rights agreement, each dated as of October 5, 2012, we granted to Fibrocell Science an exclusive license to use our proprietary technologies and other intellectual property to research, develop, use, import, export, make, have made, sell and offer for sale certain products in the United States in the field of the development of autologous, gene-modified fibroblasts for therapeutic purposes. Pursuant to the stock issuance agreement, we received 1,317,520 shares of Fibrocell s outstanding common stock in partial consideration of this license grant with a value, at the time, of $7,576,000. Concurrently, pursuant to the securities purchase agreement, an affiliate of Mr. Kirk, NRM VII Holdings I, LLC, invested $20,000,000 in Fibrocell and received 8,000,000 shares of Fibrocell s outstanding common stock.

Effective June 28, 2013, we entered into an amendment to our ECC with Fibrocell. The amendment expands the ECC to include potential treatments based on engineered autologous fibroblast cells for the localized treatment of autoimmune and inflammatory disorders including morphea (localized scleroderma), cutaneous eosinophilias and moderate to severe psoriasis. Under the terms of the amendment, we received shares of Fibrocell s common stock valued at $7.5 million as a supplemental technology access fee.

On October 1, 2013, we and certain affiliates of Mr. Kirk acquired an aggregate amount of 3,658,536 shares of Fibrocell common stock at a price of $4.10 per share. As of December 31, 2013, Mr. Kirk, together with his affiliates (excluding us), beneficially owned 9,219,512 shares, or 23.1 percent, of Fibrocell s outstanding common stock. The share amounts above reflect a 1-for-25 reverse stock split of Fibrocell s common stock effective April 30, 2013.

Effective January 10, 2014, we entered into a second amendment to our ECC with Fibrocell. The amendment expands the ECC to include potential treatments for Ehlers-Danlos syndrome hypermobility type (EDS-HT), a rare genetic disorder resulting in weakened connective tissue. Under the terms of the amendment, we received shares of Fibrocell s common stock valued at approximately $5.0 million as a supplemental technology access fee.

AquaBounty

On November 16, 2012, we acquired 48,631,444 shares of common stock of AquaBounty, representing 47.56 percent of the then outstanding shares of AquaBounty, for $6,000,000 through a definitive purchase agreement with an existing AquaBounty shareholder and its affiliate. On November 29, 2012, we entered into a promissory note purchase agreement, or

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promissory note, with AquaBounty. The promissory note permits us to loan up to $500,000 to AquaBounty. Draws on the promissory note by AquaBounty accrue annual interest of 3 percent and mature no later than May 28, 2013. As of December 31, 2012, AquaBounty had drawn $200,000 on the promissory note. In January and February 2013, AquaBounty drew $200,000 and $100,000, respectively, on the promissory note. On February 14, 2013, we entered into an ECC with AquaBounty with the intent to enhance productivity and develop products in aquaculture. Also, on February 14, 2013, three individuals designated by us, including one of our employees, were appointed to AquaBounty s board of directors. On March 15, 2013, we acquired 18,714,814 shares of AquaBounty for $4,907,000 in a private subscription offering increasing our ownership in AquaBounty to 53.82 percent. In conjunction with this share purchase, AquaBounty repaid the $500,000 promissory note plus accrued interest in its entirety.

AmpliPhi

Pursuant to an ECC and a stock issuance agreement, each dated as of March 29, 2013, we granted to AmpliPhi an exclusive license to use our proprietary technologies and all other intellectual property to develop and commercialize new bacteriophage-based therapies to target specific antibiotic resistant infections. Pursuant to the stock issuance agreement, we received 24,000,000 shares of AmpliPhi s outstanding common stock in partial consideration of this license grant with a value, at the time, of $2,400,000. On June 26, 2013, pursuant to a stock purchase agreement, an affiliate of Mr. Kirk, NRM VII Holdings I, LLC, invested $3,000,000 in AmpliPhi and received 2,142,857 shares of AmpliPhi s Series B preferred stock, which is convertible into common shares of AmpliPhi on a 10-to-1 basis. NRM VII Holdings I, LLC received 5,357,142 warrants to purchase common shares of AmpliPhi. On December 24, 2013, pursuant to a stock purchase agreement, NRM VII Holdings I, LLC invested $5,000,000 in AmpliPhi and received 20,000,000 shares of AmpliPhi common stock. As of December 31, 2013, Mr. Kirk, together with his affiliates (excluding us), beneficially owned 46,785,712 shares of AmpliPhi common stock, or 22.4 percent, of AmpliPhi.

Soligenix

Pursuant to an ECC and a stock issuance agreement, each dated as of April 27, 2013, we granted to Soligenix an exclusive license to use our proprietary technologies and all other intellectual property to develop and commercialize human monoclonal antibody therapies for the treatment of melioidosis. Pursuant to the stock issuance agreement, we received 1,034,483 shares of Soligenix s outstanding common stock in partial consideration of this license grant. On June 20, 2013, pursuant to a stock purchase agreement, an affiliate of Mr. Kirk, NRM VII Holdings I, LLC, invested $3,500,000 in Soligenix and received 3,333,333 shares of Soligenix s outstanding common stock. NRM VII Holdings I, LLC received 2,500,000 warrants to purchase common shares of Soligenix. As of December 31, 2013, Mr. Kirk, together with his affiliates (excluding us), beneficially owned 5,833,333 shares, or 26.6 percent of Soligenix s common stock. In conjunction with the ECC, we are entitled to, at our election, participate in securities offerings conducted by Soligenix in the future, subject to certain conditions and limitations. We have made no purchases of Soligenix s common stock pursuant to this arrangement.

BioPop

On October 1, 2013, we entered into an ECC and a Common Stock Purchase Agreement with Biological & Popular Culture, Inc., or BioPop, pursuant to which BioPop received a license to our

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technologies to develop and commercialize artwork, children s toys and novelty goods that are derived from living organisms or are enabled by synthetic biology. Pursuant to the Common Stock Purchase Agreement we acquired 4,163,265 shares of BioPop common stock for an aggregate purchase price of $1.3 million, which represents 51% of BioPop s outstanding common stock. Pursuant to the Common Stock Purchase Agreement, the members of Yonder LLC, or Yonder, a California limited liability company, contributed all assets and properties of Yonder to BioPop, and BioPop assumed all Yonder obligations and liabilities.

Agilis

On October 25, 2013, we entered into an ECC with Agilis Biotherapeutics, LLC, or Agilis, a synthetic biology-based company focused on rare diseases. On December 23, 2013, pursuant to a stock purchase agreement, an affiliate of Mr. Kirk, NRM VII Holdings I, LLC, invested $1,000,000 in Agilis and received 12,500 Series A membership units. As of December 31, 2013, NRM VII Holdings I, LLC owned 12,500 Series A membership units which represents 12.5 percent of the outstanding Series A membership units of Agilis.

OvaScience

On December 18, 2013, we entered into an ECC with OvaScience, Inc., a life sciences company focused on the discovery, development and commercialization of new treatments for infertility. The ECC was formed to use our synthetic biology technology platform to develop methodologies to accelerate the development of OvaScience s OvaTureTM technology platform, a next-generation approach to in vitro fertilization. As partial payment for access to our technology, OvaScience issued 273,224 shares of its common stock to us on December 18, 2013. OvaScience will pay $2,500,000 of the technology access fee in cash on December 18, 2014.

Additionally, OvaScience and we formed a joint venture entity named OvaXon, LLC, a Delaware limited liability company (OvaXon). OvaScience and we entered into a limited liability company agreement for OvaXon (the LLC Agreement) which establishes our rights and those of OvaScience with respect to OvaXon and provides for the management of OvaXon and its business. In connection with the execution of the LLC Agreement, OvaXon entered into a worldwide Exclusive Channel Collaboration Agreement with us to create new applications for improving human and animal health. OvaScience also licensed certain technology relating to egg precursor cells to OvaXon pursuant to a separate license agreement.

Sun Pharmaceutical Industries

On September 30, 2013, we entered into an ECC with S & I Ophthalmic, LLC, or Sun JV, a joint venture between us and Caraco Pharmaceutical Laboratories, Ltd., or Sun Pharmaceutical Subsidiary, an indirect subsidiary of Sun Pharmaceutical Industries Ltd., an international specialty pharmaceutical company focused on chronic diseases.

Contemporaneously with the entry into the ECC, we also entered into a Limited Liability Company Agreement, or Sun LLC Agreement, with Sun Pharmaceutical Subsidiary and Sun JV which governs the affairs of Sun JV and the conduct of Sun JV s business. Pursuant to the Sun LLC Agreement, we, as well as Sun Pharmaceutical Subsidiary, made an initial capital contribution in exchange for a 50% membership interest in Sun JV. In cases in which the board of managers of Sun JV, or the Sun JV Board, determines that additional capital contributions are necessary in order for Sun JV to comply with its obligations under the ECC, we, as well as Sun Pharmaceutical

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Subsidiary, have committed to making additional capital contributions subject to certain limitations. Each has the right, but not the obligation, to make additional capital contributions above these limits when and if solicited by the Sun JV Board.

Agreements with our shareholders

In connection with our preferred stock financings, we entered into an investor rights agreement with the purchasers of our preferred stock and certain holders of our common stock. The investor rights agreement provides those certain former holders of our preferred stock with the right to demand that we file a registration statement, subject to certain limitations, and to request that their shares be covered by a registration statement that we are otherwise filing. See Description of capital stock Registration rights for additional information. All rights under the investor rights agreement terminated upon the closing of our initial public offering other than certain registration rights for certain former holders of our preferred stock.

Severance and change in control agreements

We have entered into an employment agreement with our founder and Chief Science Officer, Dr. Thomas D. Reed. See Executive and director compensation Employment agreements with named executive officers for a further discussion of these arrangements.

Indemnification of officers and directors

Our amended and restated articles of incorporation provide that we will indemnify our directors and officers with respect to certain liabilities, expenses and other accounts imposed upon them because of having been a director or officer, except in the case of willful misconduct or a knowing violation of criminal law. See the Description of capital stock section of this prospectus for a further discussion of these arrangements.

Policies and procedures for related person transactions

Our board of directors has adopted a written related policy with respect to related person transactions. This policy governs the review, approval or ratification of covered related person transactions. The audit committee of our board of directors manages this policy.

For purposes of this policy, a related person transaction is a transaction, arrangement or relationship (or any series of similar transactions, arrangements or relationships) in which we (or any of our subsidiaries) were, are or will be a participant, and the amount involved exceeds $120,000 and in which any related person had, has or will have a direct or indirect interest. For purposes of determining whether a transaction is a related person transaction, the audit committee relies upon Item 404 of Regulation S-K, promulgated under the Securities Exchange Act of 1934, as amended.

A related person is defined as:

- Any person who is, or at any time since the beginning of our last fiscal year was, one of our directors or executive officers or a nominee to become one of our directors;

- Any person who is known to be the beneficial owner of more than five percent of any class of our voting securities;

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Any immediate family member of any of the foregoing persons, which means any child, stepchild, parent, stepparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law or sister-in-law of the director, executive officer, nominee or more than five percent beneficial owner, and any person (other than a tenant or employee) sharing the household of such director, executive officer, nominee or more than five percent beneficial owner; and

Any firm, corporation, or other entity in which any of the foregoing persons is employed or is a general partner or principal or in a similar position or in which such person has a ten percent or greater beneficial ownership interest.

The policy generally provides that we may enter into a related person transaction only if:

the audit committee pre-approves such transaction in accordance with the guidelines set forth in the policy,

the transaction is on terms comparable to those that could be obtained in arm s length dealings with an unrelated third party and the audit committee (or the chairperson of the audit committee) approves or ratifies such transaction in accordance with the guidelines set forth in the policy,

the transaction is approved by the disinterested members of the board of directors, or

the transaction involves compensation approved by the compensation committee of the board of directors.

In the event a related person transaction is not pre-approved by the audit committee and our management determines to recommend such related person transaction to the audit committee, such transaction must be reviewed and by the audit committee. After review, the audit committee will approve or disapprove such transaction. When our Chief Legal Officer, in consultation with our Chief Executive Officer or our Chief Financial Officer, determines that it is not practicable or desirable for us to wait until the next audit committee meeting, the chairperson of the audit committee possesses delegated authority to act on behalf of the audit committee. The audit committee (or the chairperson of the audit committee) shall approve only those related person transactions that are in, or not inconsistent with, our best interests and the best interests of our shareholders, as the audit committee (or the chairperson of the audit committee) determines in good faith.

The audit committee has determined that certain types of related person transactions shall be deemed to be pre-approved by the audit committee. Our related person transaction policy provides that the following transactions, even if the amount exceeds $120,000 in the aggregate, shall be considered to be pre-approved by the audit committee:

any employment of certain named executive officers that would be publicly disclosed;

director compensation that would be publicly disclosed;

transactions with other companies where the related person s only relationship is as a director or owner of less than ten percent of said company (other than a general partnership), if the aggregate amount involved does not exceed the greater of $200,000 or five percent of that company s consolidated gross revenues;

transactions where all shareholders receive proportional benefits;

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transactions involving competitive bids;

transactions with a related person involving the rendering of services at rates or charges fixed in conformity with law or governmental authority; and

transactions with a related person involving services as a bank depositary of funds, transfer agent, registrar, trustee under a trust indenture or similar services.

In addition, the audit committee will review the policy at least annually and recommend amendments to the policy to the board of directors from time to time.

The policy provides that all related person transactions will be disclosed to the audit committee, and all material related person transactions will be disclosed to the board of directors. Additionally, all related person transactions requiring public disclosure will be properly disclosed, as applicable, on our various public filings.

The audit committee will review all relevant information available to it about the related person transaction. The policy provides that the audit committee may approve or ratify the related person transaction only if the audit committee determines that, under all of the circumstances, the transaction is in, or is not inconsistent with, our best interests. The policy provides that the audit committee may, in its sole discretion, impose such conditions as it deems appropriate on us or the related person in connection with approval of the related person transaction.

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Intrexon security ownership of certain beneficial owners and management

The following table sets forth information regarding beneficial ownership of our share capital as of December 31, 2013 by:

- each person, or group of affiliated persons, known by us to beneficially own more than five percent of our shares of common stock;
- each of our directors;
- each of our named executive officers; and
- all of our directors and current named executive officers as a group.

The percentage ownership information is based on an aggregate 97,053,712 shares of common stock outstanding as of December 31, 2013.

Information with respect to beneficial ownership has been furnished by each director, officer or beneficial owner of more than five percent of our shares of common stock. We have determined beneficial ownership in accordance with the rules of the SEC. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities. In addition, the rules include shares of common stock issuable pursuant to the exercise of options or warrants that are either immediately exercisable or exercisable on or before March 1, 2014, which is 60 days after December 31, 2013. These shares are deemed to be outstanding and beneficially owned by the person holding those options or warrants for the purpose of computing the percentage ownership of that person, but they are not treated as outstanding for the purpose of computing the percentage ownership of any other person. Unless otherwise indicated, the persons or entities identified in this table have sole voting and investment power with respect to all shares shown as beneficially owned by them, subject to applicable community property laws.

Except as otherwise noted below, the address for each person or entity listed in the table is c/o Intrexon Corporation, 222 Lakeview Avenue, Suite 1400, West Palm Beach, Florida 33401.

Name and address of beneficial owner	Number of shares beneficially owned(1)	Percentage of shares beneficially owned
Randal J. Kirk(2)	62,207,700	64.1%
Samuel Broder, M.D.		*
Robert F. Walsh, III		*
Cesar L. Alvarez	55,824	*
Steven Frank	26,845	*
Larry D. Horner	87,589	*
Jeffrey B. Kindler	70,175	*
Dean J. Mitchell	24,047	*
Robert B. Shapiro(3)	127,770	*
Executive officers and directors as a group (17 persons)	63,555,071	65.5%

* Represents beneficial ownership of less than 1 percent of our outstanding shares of common stock.

(1) The amounts in this column include shares of common stock to which certain persons had the right to acquire beneficial ownership within 60 days after December 31, 2013, pursuant to the exercise of options: Randal J. Kirk, 11,428 shares; Cesar L. Alvarez, 22,854 shares; Steven Frank, 22,854 shares; Larry D. Horner, 22,854 shares; Jeffrey B. Kindler, 13,570 shares; Dean J. Mitchell, 19,997 shares; Robert B. Shapiro, 13,570 shares; and executive officers and directors as a group, 720,495 shares.

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(2) Includes shares held by the following entities over which Mr. Kirk (or an entity over which he exercises exclusive control) exercises exclusive control: 179,199 shares held by ADC 2010, LLC, 101,482 shares held by JPK 2008, LLC, 699,586 shares held by JPK 2009, LLC, 818,461 shares held by JPK 2012, LLC, 5,746,167 shares held by Kapital Joe, LLC, 131,081 shares held by Kellie L. Banks (2009) Long Term Trust, 5,428,401 shares held by Mascara Kaboom, LLC, 102,437 shares held by MGK 2008, LLC, 764,206 shares held by MGK 2009, LLC, 940,426 shares held by MGK 2011, LLC, 1,196,077 shares held by New River Management IV, LP, 22,636,052 shares held by New River Management V, LP, 1,679,578 shares held by NewVa Capital Partners, LP, 13,340,645 shares held by NRM VI Holdings I, LLC, 4,711,852 shares held by R.J. Kirk Declaration of Trust, 678,323 shares held by Third Security Incentive 2010 LLC, 1,356,648 shares held by Third Security Senior Staff 2008 LLC, 178,724 shares held by Third Security Staff 2001 LLC, 1,356,648 shares held by Third Security Staff 2010 LLC, 76,611 shares held by ZSK 2008, LLC, and 73,668 shares held by ZSK 2009, LLC.

(3) Includes 80,116 shares held in the Robert B. Shapiro Revocable Trust, an affiliate of Robert B. Shapiro.

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Description of Medistem business

Overview

Medistem Inc., a Nevada corporation (with respect to this section, the "Company, "Medistem, us , our or we) was formed in 2001 under the nam SGC Holdings, Inc., and has also formerly been known as Medistem Laboratories, Inc. Based in San Diego, California, we are a therapeutics company focused on the emerging field of regenerative medicine. Our business strategy is to develop and ultimately commercialize safe and efficacious adult stem cell therapies to address unmet medical needs. We anticipate that therapies generated using our product platform will be scalable and reimbursable.

We are developing the Endometrial Regenerative Cell (ERC), our universal donor adult stem cell product. ERCs were discovered by us in 2007, and preclinical tests have shown their likely ability to promote new blood vessel formation (angiogenesis), reduce inflammation, regulate immune system function, and augment tissue repair and healing. We believe ERCs have the potential to treat a range of diseases, including ischemic conditions, cardiovascular disease, certain neurological diseases, autoimmune diseases (such as Type 1 Diabetes), kidney failure, liver failure, pulmonary diseases and a range of orphan disease indications. Cook General BioTechnology, LLC, located in Indianapolis, Indiana, currently manufactures ERCs for us under cGMP. Our intellectual property protecting our ERC business consists of an issued patent and several patent applications, trade secrets, and proprietary manufacturing know-how that we believe provide us with a competitive advantage.

Our primary focus is to address the unmet medical needs in Critical Limb Ischemia (CLI), Congestive Heart Failure (CHF), and Type 1 Diabetes. We have been cleared by the U.S. Food and Drug Administration (FDA) to begin clinical studies of ERCs in the United States for CLI. In addition, we have initiated a Phase II clinical trial in CHF in Moscow, Russia in collaboration with a major cardiovascular center in Moscow. The Russian regulatory system does not use Phase nomenclature and the FDA has not approved or cleared any clinical trials of ERCs for CHF in the U.S. or any other country. The FDA has no jurisdiction over our Russian clinical trial in CHF; however, we have structured and are endeavoring to conduct this trial in conformity with FDA guidelines, and this trial has been approved by Russian authorities. Nonetheless, in this proxy statement/prospectus we refer to our CHF clinical trial as a Phase II clinical trial, as it is a study to establish safety and efficacy. Investors and authorities in the United States often consider that clinical trial results from trials not conducted in the United States or Western Europe are less reliable than those from trials conducted in the United States or Western Europe. Therefore it is possible the FDA may not honor some or all the data derived from this trial.

We are committed to the rapid commercialization of the ERC platform technology. Our ongoing strategy is to maximize shareholder value through rapid completion of existing clinical programs and to expand our market opportunities by initiating new programs based on the biological properties of our platform. We intend to partner with commercial and academic organizations as a key component of our ongoing strategy. We need to raise funds in order to finance our clinical and research activities further.

Since September 7, 2013, shares of Medistem common stock have traded on the OTC Markets Group s OTCQB marketplace under the stock symbol MEDS. Prior to that time, shares of Medistem common stock traded on OTCPink marketplace.

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Emerging growth company

We qualify as an emerging growth company (EGC) under the Jumpstart Our Business Startups Act of 2012 (the JOBS Act). An EGC may take advantage of public reporting requirements that are in certain respects reduced from those otherwise applicable to public companies. The reduced reporting requirements include having to present only two years of audited financial statements and only two years of related Management s Discussion and Analysis of Financial Condition and Results of Operations, and reduced disclosure obligations regarding executive compensation. Section 107(a) of the JOBS Act allows an EGC to elect to be treated as a non-EGC, thereby forgoing the special provisions of the JOBS Act and choosing to make disclosure and provide financial reporting required of non-EGC companies. We have elected, under Section 107(b), to be treated as an EGC for all purposes of the JOBS Act. We shall continue to be deemed an emerging growth company until the earliest of:

a. the last day of our fiscal year following the fifth anniversary of the date of the first sale of our common equity securities pursuant to an effective Securities Act registration statement;

b. the last day of our fiscal year in which we have total annual gross revenues of $1,000,000,000 (as such amount is indexed for inflation every 5 years by the Securities and Exchange Commission to reflect the change in the Consumer Price Index for All Urban Consumers published by the Bureau of Labor Statistics) or more;

c. the date on which we have, during the previous 3-year period, issued more than $1,000,000,000 in non-convertible debt; or

d. the date on which we are deemed to be a large accelerated filer, as defined in section 240.12b-2 of title 17, Code of Federal Regulations, or any successor thereto.

As an emerging growth company we are exempt from Section 404(b) of the Sarbanes-Oxley Act of 2002. Section 404(a) of the Sarbanes-Oxley Act requires issuers to publish information in their annual reports concerning the scope and adequacy of the internal control structure and procedures for financial reporting. This statement shall also assess the effectiveness of such internal controls and procedures. Section 404(b), from which EGCs are exempt, requires that the issuer s independent registered public accounting firm shall, in the same report, attest to and report on the assessment on the effectiveness of the internal control structure and procedures for financial reporting.

As an emerging growth company we are also exempt from Section 14A (a) and (b) of the Securities Exchange Act of 1934 which deal with shareholder voting as to executive compensation and golden parachutes.

We have elected to use the extended transition period for complying with new or revised accounting standards under Section 102(b)(2) of the JOBS Act, thereby allowing us to delay the adoption of new or revised accounting standards that have different effective dates for public and private companies until those standards apply to private companies. As a result of this election, our financial statements may not be comparable to those of companies that comply with public company effective dates.

It is possible that even after we lose EGC status we could still be able to qualify as a smaller reporting company as defined by Securities Exchange Act of 1934 regulations (for example, if we lose EGC status on the last day of our fiscal year following the fifth anniversary of the date of the first sale of our common equity securities pursuant to an effective Securities Act registration

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statement). Under current law, smaller reporting companies are eligible for many of the same exemptions and reduced reporting requirements as EGCs are.

Regenerative medicine industry

Historically, efforts toward preventing and treating disease focused on the use of drugs, specifically chemicals identified to alter or slow the course of a disease by selectively affecting one or a handful of molecular targets. This approach has led to the development of drugs that can combat infection, suppress cancer progression, and alleviate symptoms in numerous diseases. Unfortunately, diseases are often multifactorial and require a broader approach for effective treatment. Drawbacks of drug approaches include a) lack of target specificity that leads to complications (e.g. side effects); b) the ability of diseases to acquire resistance to the drug and c) lack of efficacy.

Regenerative medicine is the process of replacing or regenerating human cells, tissues or organs to restore or establish normal function and has been described as the "next evolution of medical treatments" and the vanguard of 21st century healthcare by the U.S. Department of Health and Human Services. This new field of medicine is expected to revolutionize health care. Our business focus is the development of regenerative medicine therapies.

Cell therapies potentially offer a complete solution for complex pathological processes that are not addressed using traditional drug approaches. Cell therapies hold the potential to regenerate damaged tissues or to stimulate the body's own repair mechanisms. By altering the course of disease, cell therapies could make it possible to eliminate the need for daily treatments, reduce hospitalizations and avert expensive medical procedures, while enabling patients to lead healthier lives.

Regenerative medicine focuses on the use of stem cells as a cell therapy. Stem cells are non-specialized cells with a potential for both self-renewal and differentiation into cell types with a specialized function, such as blood vessels, heart tissue, and pancreatic cells. Stem cells have the ability to undergo asymmetric division such that one of the two daughter cells retains the properties of the stem cell, while the other begins to differentiate into a more specialized cell type. Stem cells are therefore central to normal human growth and development, and also are a potential source of new cells for the regeneration of diseased and damaged tissue. Stem cell therapy aims to restore diseased tissue function by the replacement and/or regeneration of healthy cells.

Currently, companies and researchers are exploring two principal approaches for stem cell therapy: (i) embryonic stem cells, isolated from the inner mass of a few days old embryo; and (ii) adult stem cells, sourced from bone marrow, cord blood and various organs. Although embryonic stem cells are the easiest to grow and differentiate, their use in human therapy is limited by safety concerns associated with their tendency to develop teratomas (a type of tumor) and their potential to elicit immune rejection. In addition, embryonic stem cells have generated significant political and ethical debate due to their origin from early human embryos. Some of the drawbacks of embryonic stem cells have been recently overcome by the introduction of inducible pluripotent stem cells. These cells are generated from adult tissue by the process of reprogramming. While these cells overcome ethical issues associated with embryonic stem cell production, clinical use has not occurred to date, in part due to potential safety issues.

Adult stem cell therapy does not share the same drawbacks. Because adult stem cells have a limited ability to multiply and are more differentiated, teratoma formation has not been

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observed in clinical studies to date. In fact, adult stem cells have been used for over 4 decades in over 200,000 patients in the context of bone marrow transplantation, which is the standard of care for numerous hematological conditions including leukemia, lymphoma and other cancers. Adult stem cells do not have the ethical and political issues associated with embryonic stem cells.

Generally, adult stem cells can be isolated from either the same patient, referred to as autologous , or from a donor, referred to as allogeneic . For many adult stem cell therapies, the use of allogeneic cells is not feasible due to the immune rejection that occurs following the injection of cells from an unrelated donor. However, our ERCs possess properties such that they typically do not trigger an immune response when injected into unrelated recipients, thus allowing for allogeneic use.

Our ERCs are characterized by low to absent expression of Human Leukocyte Antigen (HLA) 2 genes.[1] HLA-2 is responsible for stimulation of immune responses against transplanted tissues or cells. Given the low expression of this molecule in ERCs, the immune system of an unmatched recipient does not "recognize" ERC as foreign, and as a result immune responses are not mediated against ERCs that are derived from a different individual. Studies supporting this include the demonstration that ERCs do not stimulate, but actively inhibit, multiplication of non-matched immune cells in vitro[2]; in addition, in vivo studies show that human ERCs mediate therapeutic effects in immune competent animals without rejection.[3] Additionally, human studies involving multiple administrations of ERCs isolated from non-matched donors have not resulted in sensitization of the patient to ERC.[4]

Since patients with metabolic, cardiovascular or chronic disease have markedly suppressed stem cell activity, the procurement of cells from young healthy donors permits the selection of stem cells with optimal activity.

Endometrial regenerative cells

We are developing an allogeneic adult stem cell product, the ERC, which we believe has potential utility for treating a broad range of diseases and could have widespread application in the field of regenerative medicine. Our product is obtained by culturing cells isolated from the menstrual blood of healthy female volunteers. By this process we have identified a novel population of stem cells that originate from the endometrium (lining of the uterus). The endometrium is the only tissue in the body that undergoes approximately 500 cycles of highly vascularized growth and regression in the lifetime of the average female. These cells appear to coordinate the monthly production of new blood vessels that occurs as part of the menstrual cycle. In a 2007 publication by Thomas E. Ichim, Ph.D., our President and Chief Scientific Officer and others, describing the discovery of these cells, we named this cell population Endometrial Regenerative Cells (ERCs).[4]

Preclinical studies by others and us indicate that ERCs can alter the immune system in a manner that is beneficial for autoimmunity. Specifically, ERCs can augment expression of immune suppressive cytokines and several immune regulatory enzymes[4,5] . In addition, in vitro and in vivo studies have shown that ERCs induce the generation of T regulatory cells.[3]

1 Meng et al. Journal of Translational Medicine. 2007 Nov 15;5:57.
2 Wang et al. Journal of Translational Medicine, 2012 Oct 5;10:207.
3 Murphy et al. Journal Translational Medicine, 2008 Aug 19;6:45.
4 Meng et al. Journal of Translational Medicine. 2007 Nov 15;5:57.
5 Peron et al. Stem Cell Review, 2012 Sep;8(3):940-52.

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We believe that ERCs confer the following advantages over other adult stem cells:

Non-invasive Method of Collection. Unlike the painful and highly invasive process of collecting bone marrow cells, our collection processes involves extraction of a small amount of menstrual blood from young healthy donors. Even other types of stem cell therapy require tissue sources that are more difficult to procure than ERCs are, for example, placental, cord blood, and adipose tissue.

ERCs are Universal Donor Stem Cells. Unlike traditional bone marrow or hematopoietic stem cell transplants that require extensive genetic matching between donor and recipient or reinsertion of a patient s own autologous cells, ERCs are administered without tissue matching or the requirement for immune suppressive drugs. ERCs are delivered to the point-of-care as a cryogenically preserved allogeneic product that is ready to use, without need for end user manipulation, in any and all patients. This feature could make it practical for clinicians to efficiently deliver stem cell therapy to large numbers of patients. Additionally, we believe commercialized ERCs will be able to provide an off-the-shelf therapy with a validated one-year storage life, comparable to the shelf life of many prescription drugs.

ERCs are Safe. Safety of ERCs has been demonstrated in pilot and preclinical studies. Animal studies in immune competent and immune deficient models have shown safety after both acute and chronic administration. Published pilot clinical trials provide evidence for human safety when ERCs are administered via intramuscular, intravenous, intracoronary, and intrathecal routes.[4,5,6] No infusion reactions or allo-sensitization has been observed in a total of 17 patients treated under our cardiac protocol as well as 4 multiple sclerosis patients, 1 Duchenne muscular dystrophy patient , and 1 heart failure patient.[7,8] We plan to conduct additional clinical trials, which we believe will further establish ERCs safety.

ERCs Should Have Advantageous Therapeutic Properties Compared to Other Adult Stem Cells. Preclinical studies conducted by us, and subsequently independently confirmed, support the belief that ERCs are superior to competitor stem cell types at stimulating new blood vessel formation, self-renewing, and immune modulating. A recent study by the National Institutes of Health demonstrated that ERCs possess 40-fold higher expression of the stem cell potency gene aldehyde dehydrogenase compared to bone marrow mesenchymal stem cells (MSCs).[6] An animal study from the University of Keio, Japan, demonstrated ERCs were more effective than bone marrow MSCs at regenerating heart muscle and reducing fibrosis after experimental myocardial infarction.[9] We plan to conduct additional clinical trials, which we believe will further establish ERCs therapeutic properties.

ERCs Can Readily Be Collected and Cultured. After culturing, one ERC donor procedure can provide 20,000 doses (100 million cells per dose) in a well validated and reproducible manner. Since the ERCs express high levels of regenerative genes (OCT4 and hTERT), they can be expanded in significantly higher numbers compared to some other kind of adult stem cells. Additionally, the rapid doubling time of ERCs compared to some other kinds of adult stem cells allows for less reagent use in production, thus providing a modest manufacturing advantage.

6 Zhong et al. Journal of Translational Medicine, 2009 Feb 20;7:15.
7 Ichim et al. International Archives of Medicine, 2010 Apr 14;3(1):5.
8 Bockeria et al. Journal of Translational Medicine, 2013 Mar 5;11:56.
9 Wang et al. Journal of Translational Medicine 2012, 10:207.

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Our Clinical Programs

Critical limb ischemia (CLI)

CLI is a debilitating condition caused by occlusion of the arteries supplying blood to the legs and feet, and is often associated with other serious conditions including hypertension, cardiovascular disease, dyslipidemia, diabetes, obesity and stroke. CLI is the most serious and advanced stage of peripheral arterial disease resulting from chronic inflammation and lipid accumulation. In addition to chronic pain, patients experience ulcers, gangrene, and high mortality. Approximately 20-45% of patients require amputation. For these patients, the 1-year mortality rate is estimated to be as high as 45%. According to the Inter-Society Consensus for the Management of Peripheral Arterial Disease (TASC II), treatment for CLI should be focused on revascularization using surgical or percutaneous means. Unfortunately, because of disease severity, less than half of the patients are eligible to undergo these procedures. For the patients that are eligible, efficacy is limited due to high levels of restenosis and the need for further surgery. Non-surgical options for CLI are limited to drug therapy, which offers minimal or no benefit. Many CLI patients are considered unsuitable for revascularization (also known as no option) as they have exhausted all other reasonable treatment options and will likely require amputation. According to the SAGE Group (2010) there are an estimated 1.1-2.0 million CLI patients that are currently ineligible for revascularization. In addition, the SAGE Group estimates the annual amputation rate due to CLI is approximately 150,000 in the US per year.

Angiogenesis, the process of making new blood vessels in tissues lacking oxygen, is an attempt by the body to correct inadequate circulation in the legs of patients with CLI. Patients who have higher propensity for angiogenesis have better outcomes and fewer amputations compared to those with lower angiogenic ability. Attempts have been made at augmenting this natural process through gene therapy by administration of HGF-1 or FGF-4 genes. Unfortunately these approaches have yielded poor results that appear to be related to the fact that the process of angiogenesis requires a coordinated symphony of cytokines. Evidence suggests that administration of stem cells, which naturally produce these cytokines in a coordinated manner, should elicit a markedly superior therapeutic effect.

Although difficult to scale up and implement, autologous bone marrow stem cell therapy has provided clinical signals that stem cell based approaches are effective in the treatment of CLI. In 2002 Tateishi-Yuyama et al treated 45 CLI patients with autologous bone marrow cells harvested from the hip and injected the cells into the gastrocnemius muscle of the ischemic leg. A statistically significant increase in ankle brachial index, transcutaneous oxygen pressure, pain free walking time, and amelioration of rest pain was observed at 4 and 24-week follow-up. Importantly, the new blood vessels that were generated in response to bone marrow cell administration were stable at 24 weeks. Additionally, clinical improvement was persistent for the length of the study follow-up, which was more than one year. Further studies have confirmed the therapeutic benefit of bone marrow administration for treatment of CLI. For example, Nizankowski et al treated 10 CLI patients with autologous bone marrow and observed improvement in circulation, walking distance and decrease in pain severity. Furthermore, Durdu et al performed intramuscular injection of autologous bone marrow mononuclear cells in 28 CLI patients. Of the 28 patients, only 1 required amputation in the one-year follow-up period. Statistically significant increases in rest pain scores, walking time, and quality of life were noted. Angiographic evidence of collateral vessel formation was observed in 22 of the patients at 6 months.

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Thus, autologous bone marrow therapy for CLI appears to be a promising solution to the current lack of treatments. However, the invasiveness of the bone marrow extraction procedure precludes many patients from therapy because of the co-morbidities of this patient population. Specifically, many vascular surgeons refuse to allow their patients to undergo the highly invasive procedure of bone marrow harvest. Additionally, it is widely accepted that bone marrow from patients with CLI have markedly impaired angiogenic properties. An "off-the-shelf" product, such as our ERC product, may overcome the current drawbacks of autologous bone marrow therapy. Specifically, our ERC therapy does not require bone marrow extraction, does not even need to be autologous, and possesses highly angiogenic properties.

Our critical limb ischemia program

Since 2008 we have developed preclinical data to support the utilization of ERCs in patients with CLI. In 2008 our President and Chief Scientific Officer, Thomas E. Ichim, Ph.D., published with Michael P. Murphy, M.D., a vascular surgeon and associate professor of surgery at Indiana University School of Medicine, who is considered an opinion leader in the CLI space, animal efficacy data demonstrating that administering ERCs in a mouse model of CLI was effective at preventing limb loss associated with experimentally induced ischemia.3 Based on this data, we applied for an Investigational New Drug (IND) application to treat 15 no option CLI patients by intramuscular administration of ERCs. The clinical protocol was cleared by the FDA in September of 2011 and granted IND #13898. As designed, the Phase I clinical trial will assess safety of 3 escalating doses of ERCs injected into 3 cohorts of 5 patients each. We anticipate starting our U.S. Phase I CLI trial during the second half of 2013. The trial will run through the fourth quarter of 2015 and we expect to dose 15 subjects.

The purpose of the trial will be to determine safety of intramuscularly delivered ERCs in patients with critical limb ischemia ineligible for revascularization. Safety will be defined as freedom from treatment associated adverse events.

In order to reduce risks associated with implementation of our FDA clinical trial, we provided our ERCs to Shanghai Jia Fu Medical Apparatus Inc., a Chinese conglomerate, to conduct a three no-option patient pilot CLI clinical study in China. The pilot CLI clinical study mirrors the Phase I CLI clinical trial we anticipate initiating in the U.S. The ERCs were shipped from Cook General BioTechnology in Bloomington, Indiana, to Shanghai, China, in a cryogenic shipping container. On arrival in Shanghai, China, and before administration to the patients, the ERCs were thawed and exceeded our viability criteria of a minimum of 70%. A total of three no-option CLI patients were injected intramuscularly (into the gastrocnemius muscle in the calf of the leg) and showed no adverse effects over the initial period of evaluation of 30 days. Patients will remain under evaluation through January 2014.

The pilot CLI clinical study was not conducted under a formal agreement with Shanghai Jia Fu Medical Apparatus Inc. and no payments were made or will be made for this study.

Under the protocol for the pilot CLI clinical study in China and also our FDA-cleared Phase I clinical trial, patients received/will receive 25, 50, or 100 million ERCs in ten injections of 2.5, 5, or 10 million ERCs suspended in a volume of 1 milliliter per injection. Injections were/will be spaced at least 2 centimeters apart from each other in the gastrocnemius muscle above the failed vascular perfusion area.

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Critical limb ischemia market

According to the SAGE Group, endovascular procedures for revascularization of CLI patients represent a market of approximately $2.9 billion annually. Despite these procedures, approximately 150,000 amputations occur each year in the U.S. due to this condition. Additionally, medical treatments for CLI, which have not demonstrated meaningful limb salvage but merely provide amelioration of symptoms, such as Alprostadil (PGE1) and Iloprost (PGI2 analogue), represent hundreds of millions of dollars in yearly drug sales for this condition alone.

Congestive heart failure (CHF)

Congestive Heart Failure (CHF) has emerged as a major chronic disease in the United States. The initial stages of heart failure are managed with medical therapy and end-stage heart failure is managed with surgical procedures in addition to medical therapy. These patients have severely compromised perfusion of the myocardium leading to angina, which significantly limits their daily activities and interferes with their rest at night. Some of the proven surgical procedures include myocardial revascularization, ventricular assist devices, and heart transplantation. Although surgical and catheter based revascularization of ischemic myocardium can treat angina, reduce the risk of myocardial infarction, and improve function of viable myocardium, these treatments cannot restore the viability of severely ischemic and/or necrotic myocardium. Many patients with reversible ischemia in regions of the myocardium are not amenable to Coronary Artery Bypass Graft (CABG) or Percutaneous Transluminal Coronary Angioplasty (PTCA).

A major advance in the treatment of CHF would be to reverse this condition of ischemia and to restore perfusion within the affected area of the myocardium. Thus, the aim of stem cell based therapies is to repopulate the myocardium with cells that may restore blood supply, improve cardiac function and thereby enhance the patient s quality of life.

Our congestive heart failure (CHF) program

In January 2012, we announced the initiation of our RECOVER-ERC (Non-Revascularizable IschEmic Cardiomyopathy treated with Retrograde COronary Sinus Venous DElivery of Cell TheRapy) Phase II clinical trial. Although we refer to this CHF clinical trial as a Phase II clinical trial (as it is a study to establish safety and efficacy), the FDA has not approved or cleared any clinical trials of ERCs for CHF in the U.S. or any other country. The FDA has no jurisdiction over our Russian clinical trial in CHF; however, we have structured and are endeavoring to conduct this trial in conformity with FDA guidelines, and this trial has been approved by Russian authorities.

This trial is being conducted at the Bakulev Scientific Center for Cardiovascular Surgery, Moscow, Russia, in collaboration with ERCell LLC, our majority owned Moscow-based ERC Russia/ Commonwealth of Independent States commercialization subsidiary. The trial is a 60 patient double blind placebo controlled study evaluating safety and efficacy of ERCs in end stage CHF patients. Patients will be randomized into 3 groups of 20 patients each, with 15 patients receiving ERCs and 5 patients receiving placebo per group. Group 1 will receive 50 million ERCs, Group 2 will receive 100 million ERCs, and Group 3 will receive 200 million ERCs. Cells are administered via our patent-pending catheter-based retrograde administration technique into the coronary sinus. Intra-coronary sinus administration is a minimally invasive 30-minute procedure. Efficacy endpoints include ECHO and MRI analysis, conducted at 6 months after treatment with additional assessments at 12 months. To date 18 patients have entered the trial.

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The process of retrograde administration into the coronary sinus involves temporary occlusion of afferent coronary circulation by means of a balloon catheter followed by administration against the outflowing blood. This results in the solution entering the myocardium via post capillary venules. In contrast to arterioles or capillaries, post-capillary venules have the smallest vessel diameter and conceptually would allow for greatest transfer of material into the heart muscle. Given that MSC, hematopoietic stem cell, and various tissue specific progenitors migrate into tissue using similar mechanisms/molecules of extravasation as activated leukocytes, it is reasonable to directly deliver cells to exit ports within the coronary microcirculation as compared to intra-arterially. The procedure used in the clinical trial takes approximately 30 minutes to complete and involves administration of 40 ml volume of cells in retrograde against a balloon that is inflated for 10 minutes.[10]

The Principal Investigator of the RECOVER-ERC trial is Leo Bockeria, M.D., Chairman of the Bakulev Center and Academician of the Russian Academy of Science. The Bakulev Center is Russia's premier institute for cardiovascular surgery and cardiology. Every year the Bakulev Center performs approximately 30,000 procedures including 7,000 open heart surgeries and more than 12,000 angioplasties. The International Principal Investigator for the trial is Amit Patel, M.D., Director of Clinical Regenerative Medicine at University of Utah, who is the first physician to administer stem cells into the human heart and is currently running 17 FDA clinical trials in regenerative medicine. Safety oversight for the trial is performed by the independent Data Safety Monitoring Board, which is chaired by Warren Sherman, M.D., Director of Cardiac Cell-Based Endovascular Therapies at Columbia University Medical Center. We anticipate completion of this clinical trial by the first quarter of 2015.

As noted above, the Russian regulatory system does not use "Phase" nomenclature and the FDA has not approved or cleared any clinical trials of ERCs for CHF in the U.S. or any other country. The FDA has no jurisdiction over our Russian clinical trial in CHF; however, we have structured and are endeavoring to conduct this trial in conformity with FDA guidelines, and this trial has been approved by Russian authorities. Nonetheless, we refer to the CHF clinical trial being conducted at the Bakulev Scientific Center for Cardiovascular Surgery as a Phase II clinical trial, as it is a study to establish safety and efficacy. Investors and authorities in the United States often consider that clinical trial results from trials not conducted in the United States or Western Europe are less reliable than those from trials conducted in the United States or Western Europe. Therefore it is possible the FDA may not honor some or all the data derived from this trial.

We are providing sponsorship and funding through ERCell, LLC, our majority owned Moscow-based subsidiary, for the RECOVER-ERC trial. ERCell, LLC is utilizing Cromos Pharma, LLC as the contract research organization (CRO) for the RECOVER-ERC trial. Cromos Pharma, LLC is an entity controlled by Vladimir Bogin, our Chairman of the board of directors, however, Dr. Bogin has recused himself from the conduct of the study.

Congestive heart failure market

We believe CHF represents a large and expanding market opportunity for our products. Heart failure is believed to affect at least 5.7 million adult Americans or 2.4% of the adult population and costs the US healthcare system approximately $35 billion per year in direct medical expenses. Heart failure patients account for approximately 10 million office visits per year. Heart failure incidence

[10] Bockeria et al. Journal of Translational Medicine 2013 Mar 5;11:56.

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exceeds 700,000 new cases per year in the US. Given the aging population this incidence is expected to rise. In 2007, there were 277,000 deaths documented in the US as a direct result of heart failure. Sales of palliative medications for heart failure in the US exceed $3 billion per year.

Type 1 Diabetes

Type 1 Diabetes, commonly known as juvenile diabetes or insulin-dependent diabetes, is an autoimmune disorder that attacks and destroys insulin producing islet cells in the pancreas causing glucose accumulation. As a result, those suffering from Type 1 Diabetes must take insulin injections over the course of their lifetime to regulate blood sugar levels. Over time, poorly controlled diabetes can lead to serious health conditions, including heart disease, stroke, blindness, amputations, kidney disease and nerve damage.

Type 1 Diabetes program

We have discovered that ERCs are capable of suppressing pathological immune responses that are associated with Type 1 Diabetes. In 2008, our President and Chief Scientific Officer, Thomas E. Ichim, published results of preclinical research indicating that ERCs can inhibit production of interferon gamma, a cytokine associated with diabetes progression, and augment production of interleukin 4, a cytokine that protects animals from diabetes. Subsequently we generated data demonstrating that administration of ERCs can protect mice from immunological-mediated diabetes in the Non Obese Diabetes model.

On March 2, 2012, we licensed from Yale University U.S. patent application number 61/510,812 (and all foreign equivalents thereof) covering the use of ERCs as a source of insulin producing cells. Under the license agreement we received an exclusive worldwide license to develop and commercialize the licensed products. The license agreement called for a $5,000 payment on execution of the agreement and annual minimum-royalty license maintenance payments of $5,000, $6,000, $7,500 and $9,000 on the first four anniversaries of the date of the agreement and $12,000 on each anniversary thereafter. In addition, the agreement calls for us to pay a milestone payment of $100,000 when we initiate a Phase I clinical trial of a licensed product and a milestone payment of $1,000,000 when we obtain a biologics license application approval from the FDA. Yale is also entitled to a 2% royalty payment on net sales of licensed products. We are responsible for all past, present and future patent and patent application filing, prosecution and maintenance costs. Yale can terminate the license if we have not initiated a Phase I clinical trial of a licensed product by the fifth anniversary of the date of the agreement. The term of this license will automatically expire, on a country-by-country basis, on the date on which the last of the claims of the patent expires, lapses or is declared to be invalid by a non-appealable decision of a court or other authority of competent jurisdiction through no fault or cause by us.

Hugh Taylor, M.D., who sits on our Scientific Advisory Board, is inventor of this technology and has published preclinical animal data demonstrating de novo production of insulin from ERC derived cells. Dr. Taylor is Professor of Obstetrics, Gynecology, and Reproductive Sciences, Professor of Molecular, Cellular, and Developmental Biology, and Professor of Women's Health at Yale, and is Chief of Obstetrics and Gynecology at Yale-New Haven Hospital. Based on demonstrated safety data of ERCs, as well as a FDA-cleared IND for another indication, we anticipate filing an IND application for using ERCs for treatment of Type 1 Diabetes. We anticipate completing a US preclinical study by the second half of 2014.

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Type 1 Diabetes market

The incidence of Type 1 Diabetes has been increasing for the last 3-4 decades in the US, Europe and Australia. What is quite striking is that the disease is occurring much earlier in life. In European children 1-5 years of age the incidence is increasing at a rate of 5.4% annually, a rate much higher than other age groups. This increase in incidence will lead to a doubling of the number of cases in that age group in Europe in this decade. Similar trends are being seen in the US. According to the Juvenile Diabetes Research Foundation an estimated three million Americans have Type 1 Diabetes. Currently, each diabetic patient costs the U.S. health care system more than $10,000 per year. Insulin sales in the US for Type 1 Diabetics are $2 billion per year. Complications of Type 1 Diabetes such as blindness, renal failure, peripheral artery disease and heart disease cost the healthcare system approximately $14.9 billion per year.

Commercialization strategy

The key elements of our commercialization strategy are outlined below:

Efficiently Conduct Clinical Development to Establish Clinical Proof of Concept with our Lead Product Candidates. ERCs represent a novel therapeutic modality for the treatment of ischemia, CHF, and autoimmune diseases such as Type 1 Diabetes. ERCs may be administered intravenously, via catheter, intrathecally or by local injection. The cells appear to be responsive to their environment, homing to sites of injury and producing proteins such as cytokines and MMPs that may provide benefit in acute or chronic conditions. Additionally, ERCs may deliver therapeutic benefit through several distinct mechanisms of action, including stimulation of angiogenesis, reducing inflammation, and promoting tissue repair. We are conducting and planning a number of clinical studies with the intent to establish proof of concept in a number of important disease areas where the cell therapies would be expected to have benefit such as CLI and CHF. These studies do not feature large patient populations. Our focus is on conducting well-designed studies early in the clinical development process to establish a robust foundation for subsequent development, partnering activity and expansion into complementary areas. We are committed to a rigorous clinical and regulatory framework, which we believe has helped us to advance our programs efficiently, providing high quality, transparent regulatory submissions.

Continue to Refine and Improve our Manufacturing and Related Processes and Deepen our Understanding of Therapeutic Mechanisms of Action. A key aspect of the ERC product is its substantial expansion capacity in tissue culture relative to other stem cell types. This enables industrial scale production, which allows for greater consistency, specificity and cost of goods advantages over other stem cell therapies. We plan to build on this intrinsic biological advantage by continuing to advance and optimize our production and process development approaches, further developing new manufacturing techniques, and optimizing the supply chain to support late-stage development and commercialization of the ERCs. Additionally, we will continue to refine our understanding of our products activities and mechanisms of action to enable optimization of administration and dosing and to prepare the foundation for product enhancements and next generation opportunities.

Enter into Licensing or Product Co-Development Arrangements in Core Areas, while Out-Licensing Opportunities in Non-Core Areas. In addition to our internal development efforts, an important part of our product development strategy is to work with collaborators and partners to accelerate product development, reduce our development costs, and broaden our

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commercial access. We will seek to enter into licensing and product co-development arrangements with qualified commercial partners to achieve these objectives.

Efficiently Explore New High Potential Therapeutic Applications, Leveraging Third-Party Research Collaborations and our Results from Related Areas. Our strategy includes establishing collaborative research relationships with investigators from research and clinical institutions across the United States, Asia and Europe. Some of these institutions at which we have, at some level, already established such relationships include: Yale University, Harvard University, University of California San Diego, University of Utah, Indiana University, University of Florida, and the University of Western Ontario. Through this network of collaborations, we have studied the effects of ERCs in a range of preclinical models that reflect various types of human disease or injury in the cardiovascular, neurological, and immunological areas. These collaborative relationships have enabled us to cost effectively explore where ERCs may have therapeutic relevance. We will seek to expand and deepen such relationships.

Continue to Expand our Intellectual Property Portfolio. We have an intellectual property estate that covers our proprietary products, and technologies, as well as methods of production and methods of use. Our intellectual property is important to our business and we take significant steps to protect its value. To maximize this value, it is important that valid patents ultimately are issued based upon our current and future patent applications. We have ongoing research and development efforts, both through internal activities and through collaborative research activities with others, which aim to develop new intellectual property and enable us to file patent applications that cover new uses of our existing technologies or product candidates, including ERC and other opportunities.

Intellectual property

Our strategy is to establish an extensive portfolio of intellectual property. Part of our intellectual property portfolio consists of technology, trade secrets and know-how that we protect from being appropriated by third parties through the use of confidentiality agreements with our employees and licensees. Additionally, we are in the process of obtaining further protection for some of our intellectual property by filing patent applications with the United States Patent and Trademark Office ("PTO") and under the Patent Cooperation Treaty ("PCT"). If we do not obtain patent protection for our business, we would be subject to copycat competition and our business could suffer. We own (or in one case as noted below, we license-in) the following issued US patent and patent applications:

PATENT #	PATENT NAME	EXPIRATION DATE
8,241,621(1)	STEM CELL MEDIATED TREG ACTIVATION/EXPANSION FOR THERAPEUTIC IMMUNE MODULATION	12/18/26
PATENT APPLICATION #	**PATENT APPLICATION NAME**	**FILING DATE**
11/353,692	METHOD FOR EXPANSION OF STEM CELLS	2/14/06
11/486,635	COMPOSITIONS OF PLACENTALLY-DERIVED STEM CELLS FOR THE TREATMENT OF CANCER	7/13/06
12/098,420	STEM CELL THERAPY FOR THE TREATMENT OF AUTISM AND OTHER DISORDERS	4/5/08

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PATENT #	PATENT NAME	EXPIRATION DATE
12/127,697	ENDOMETRIAL STEM CELLS AND METHODS OF MAKING AND USING SAME	5/27/08
12/470,438	STEM CELL THERAPY FOR BLOOD VESSEL DEGENERATION	5/21/09
12/730,145	TREATMENT OF MUSCULAR DYSTROPHY	3/23/10
12/823,960	METHOD FOR EXPANSION OF STEM CELLS	6/25/10
13/688,864	METHODS OF INDUCING CELL DIFFERENTIATION WITH PLACENTAL EXTRACTS	11/29/12
12/681,600	COMPOSITIONS AND METHODS OF STEM CELL THERAPY FOR AUTISM	10/3/08
12/442,356	**ALLOGENEIC STEM CELL TRANSPLANTS IN NON-CONDITIONED RECIPIENTS**	**9/20/07**
13/756,310	THERAPEUTIC IMMUNE MODULATION BY STEM CELL SECRETED EXOSOMES	**1/31/13**
PCT/US2012/047611(2)	ENDOMETRIAL DERIVED STEM CELLS AND THEIR METHODS OF USE	**7/20/12**
PROVISIONAL APPLICATION #(3)	**APPLICATION NAME**	**FILING DATE**
61/618974	ENDOMETRIAL REGENERATIVE CELLS FOR TREATMENT OF TRAUMATIC BRAIN INJURY	3/30/13
61/566460	RETROGRADE DELIVERY OF CELLS AND NUCLEIC ACIDS FOR TREATMENT OF CARDIOVASCULAR DISEASES	12/3/12
61/867955	TREATMENT OF MUSCULOSKELETAL DEFECTS UTILIZING ENDOMETRIAL REGENERATIVE CELLS	8/20/13
61/625657	STEM CELLS AND STEM CELL GENERATED NANOPARTICLES FOR TREATMENT OF INFLAMMATORY CONDITIONS AND ACUTE RADIATION SYNDROME	4/17/13
61/885909	TOLEROGENIC USES OF ENDOMETRIAL REGENERATIVE CELLS	10/2/13

(1) On July 10, 2013 we entered into an agreement granting Cytori Therapeutics, Inc., an exclusive license to use our US patent #8,241,621, Stem Cell Mediated Treg Activation in the US and its territories for the field of autoimmune disease. Under the license agreement we received a one-time $10,000 licensing fee and are entitled to an annual royalty payment of 3.5% on net sales of licensed products. The term of this license agreement will automatically expire on the date on which the last of the claims of the patent expires, lapses or is declared to be invalid by a non-appealable decision of a court or other authority of

competent jurisdiction. However, we do not expect to receive material revenue from this source for several years, if ever.

(2) Licensed from Yale University

(3) The term Provisional indicates that a US Provisional patent application was filed with the PTO. A provisional application is a legal document that establishes an early filing date, but which cannot potentially result in an issued patent unless the applicant files a regular non-provisional patent application within one year.

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Manufacturing and sources of supply

Although we have no internal manufacturing activities, we have a cancellable manufacturing agreement with Cook General BioTechnology, LLC, to produce our ERCs under current good manufacturing practices (cGMP). Currently Cook is a sole-source provider and if we were to lose our arrangement with Cook we would experience a short-term disruption until we could procure alternate manufacturing. Although we require access to sources of adult endometrial stem cells to support our research and development activities, such donor sources are readily available.

Laboratory facilities

We require access to laboratory equipment and facilities to support our business activities, which we obtain through outsourcing agreements and collaborations with third parties. We do not consider access to laboratory equipment and facilities to be a significant risk in pursuing our business interests.

Competition

The biotechnology industry is characterized by rapidly evolving technology and intense competition. Although we are not aware of any competitors using ERCs as a therapy, our competitors include startup, development-stage, and major commercial companies offering services, techniques, treatments and services for producing, processing and marketing stem cell derived therapies from all classes of adult stem cells, as well as competing therapies that do not involve stem cells. Some of these companies are well established and possess technical, research and development, financial, manufacturing, reputational, regulatory affairs, and sales and marketing resources significantly greater than ours. In addition, many smaller biotech companies have formed strategic collaborations, partnerships and other types of alliances with larger, well-established industry competitors that afford these companies potential research and development and commercialization advantages in product areas currently being pursued by us. Academic institutions and other public and private research organizations are also conducting and financing research activities which may produce products and processes directly competitive to those being commercialized by us. Moreover, many of these competitors may be able to obtain patent protection, obtain FDA and other regulatory approvals and begin commercial sales of their products before we do. Competitors focusing primarily on stem cells include Aastrom Biosciences, Inc., Advanced Stem Cell Technology, Inc., Athersys, Inc., Biomet, Inc., Cytomedix, Inc., Harvest Technologies Corporation, International Stem Cell Corporation, Mesoblast Limited, Opexa Therapeutics, Osiris Therapeutics, Inc., Pluristem Therapeutics, Inc., and Stem Cells, Inc.

Regulatory approval (FDA)

The FDA approval process required to be complied with in order to market our potential products and therapeutics in the United States includes the following five steps:

Preclinical laboratory and animal tests must be conducted. Preclinical tests include laboratory evaluation of the cells and the formulation intended for use in humans for quality and consistency. In vivo studies are performed in normal animals and specific disease models to assess the potential safety and efficacy of the cell therapy product. Additional testing required includes identification of cellular distribution in animals, observation for potential of cellular transformation, and assurance that ectopic tissue is not formed as a result of cell administration.

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An investigational new drug application, or IND, must be submitted to the FDA, and the IND must become effective before human clinical trials in the United States may commence. The IND submitted to the FDA contains, among other things, preclinical data, a proposed development plan and a proposed protocol for a study in humans. The IND becomes effective 30 days following receipt by the FDA, provided there are no questions, requests for delay or objections from the FDA. If the FDA has questions or concerns, it notifies the sponsor, and the IND will then be on clinical hold until a satisfactory response is made by the sponsor. In some situations the sponsor may be the investigator performing the clinical trial, in such situations the IND is said to be "Investigator Initiated".

Adequate and well-controlled human clinical trials must be conducted to establish the safety and efficacy of the product. Clinical trials involve the evaluation of a potential product under the supervision of a qualified physician, in accordance with a protocol that details the objectives of the study, the parameters to be used to monitor safety and the efficacy criteria to be evaluated. Each protocol is submitted to the FDA as part of the IND. The protocol for each clinical study must be approved by an independent institutional review board, or IRB, of the institution at which the study is conducted, and an informed consent of all participants must be obtained. The IRB reviews the existing information on the product, considers ethical factors, the safety of human subjects, the potential benefits of the therapy, the scientific/medical knowledge that will be generated from the study and the possible liability of the institution. The IRB is responsible for ongoing safety assessment of the subjects during the clinical investigation. Clinical development is traditionally conducted in three sequential phases.

Phase I studies are designed to evaluate safety in a small number of subjects in a selected patient population by assessing adverse effects, and may include multiple dose levels. This study may also gather preliminary evidence of a beneficial effect on the disease. Unlike pharmaceutical therapeutics in which Phase I trials are usually conducted in healthy volunteers, cell therapy Phase I studies are usually performed in patients afflicted with the indication for which the therapeutic is being developed to treat.

Phase II may involve studies in a limited patient population to determine biological and clinical effects of the product and to identify possible adverse effects and safety risks of the product in the selected patient population.

Phase III trials would be undertaken to conclusively demonstrate clinical benefit or effect and to test further for safety within a broader patient population, generally at multiple study sites. Generally Phase III trials are performed in a double blind manner, meaning that neither the physician nor the patient know whether an active treatment or a placebo is being administered.

Marketing authorization applications must be submitted to the FDA. In the area of biologics, such as cell therapy, the authorization for marketing is made under a Biologics License Application (BLA). The results of the preclinical studies and clinical studies are submitted to the FDA in the form of marketing approval authorization applications.

The FDA must approve the applications before any commercial sale or practice of the technology or product. Biologic product manufacturing establishments located in certain states also may be subject to separate regulatory and licensing requirements. The time for approval is affected by a number of factors, including relative risks and benefits demonstrated in clinical trials, the availability of alternative treatments and the severity of the disease, and animal studies or clinical trials that may be requested during the FDA review period.

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In September 2011, we received FDA clearance to initiate a dose-escalating Phase I clinical trial in patients with critical limb ischemia using our ERCs. We have not yet commenced this clinical trial. Continuation of clinical development will require substantial time, effort and expense.

Our research and development is based largely on the use of human stem and progenitor cells. The FDA has initiated a risk-based approach to regulating human cell, tissue and cellular and tissue-based products and has published current Good Tissue Practices and Good Manufacturing Practices regulations and guidance. As part of this approach, the FDA has published final rules for registration of establishments that engage in the recovery, screening, testing, processing, storage or distribution of human cells, tissues, and cellular and tissue-based products, and for the listing of such products. While we believe we are in compliance with all such practices and regulation, we are not required to register until we apply for licensure from the FDA for our product, subject to successful completion of human trials. In addition, the FDA has published rules for making suitability and eligibility determinations for donors of cells and tissue and for current Good Tissue Practices for manufacturers using them, which have recently taken effect. We cannot now determine the full effects of this regulatory initiative, including precisely how it may affect the clarity of regulatory obligations and the extent of regulatory burdens associated with our stem cell research and the manufacture and marketing of stem cell products.

Research and development

We spent $481,286 and $353,408 on research and development activities in the years ended December 31, 2012 and 2011, respectively. In the nine months ended September 30, 2013 we spent $274,637 and in the nine months ended September 30, 2012 we spent $418,594.

Employees

As of December 31, 2012, we employed three full-time and one part-time employees. None of our employees are represented by a union or other collective bargaining agreement, and we consider our relations with our employees to be good. Our business model relies heavily on the outsourcing of research and development and general and administrative activities. We have established affiliations with numerous organizations throughout the world to help support our biotech activities.

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Medistem management s discussion and analysis of financial condition and results of operations

Special note regarding forward-looking statements

In this document we make a number of statements, referred to as "forward-looking statements," that are intended to convey our expectations or predictions regarding the occurrence of possible future events or the existence of trends and factors that may impact our future plans and operating results. The safe harbor for forward-looking statements provided by the Private Securities Litigation Reform Act of 1995 does not apply to us. We note, however, that these forward-looking statements are derived, in part, from various assumptions and analyses we have made in the context of our current business plan and information currently available to us and in light of our experience and perceptions of historical trends, current conditions and expected future developments and other factors we believe to be appropriate in the circumstances. You can generally identify forward-looking statements through words and phrases such as WILL, "SEEK", "ANTICIPATE", "BELIEVE", "ESTIMATE", "EXPECT", "INTEND", "PLAN", "BUDGET", "PROJECT", "MAY BE", "MAY CONTINUE", "MAY LIKELY RESULT", and similar expressions. When reading any forward looking-statement you should remain mindful that all forward-looking statements are inherently uncertain as they are based on current expectations and assumptions concerning future events or future performance of our company, and that actual results or developments may vary substantially from those expected as expressed in or implied by that statement for a number of reasons or factors, including those relating to:

- whether or not markets for our products develop and, if they do develop, the pace at which they develop;
- our ability to attract and retain the qualified personnel to implement our growth strategies;
- our ability to obtain approval from the Food and Drug Administration for our products;
- our ability to obtain and then protect the patents on our proprietary technology;
- our ability to fund our short-term and long-term operating needs;
- changes in our business plan and corporate strategies; and
- other risks and uncertainties discussed in greater detail in the sections of this document, including those captioned "Risk Factors and "Management s Discussion and Analysis Of Financial Condition and Results of Operations.

Each forward-looking statement should be read in context with, and with an understanding of, the various other disclosures concerning our company and our business made elsewhere in this document as well as other public reports filed with the United States Securities and Exchange Commission (the "SEC"). You should not place undue reliance on any forward-looking statement as a prediction of actual results or developments. We are not obligated to update or revise any forward-looking statement contained in this document to reflect new events or circumstances unless and to the extent required by applicable law.

Overview

We are a pre-revenue therapeutics company focused on the emerging field of regenerative medicine.

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We are developing the Endometrial Regenerative Cell (ERC) universal donor adult stem cell product (ERC-124). ERCs were discovered by us in 2007, and preclinical tests have shown their likely ability to promote new blood vessel formation (angiogenesis), reduce inflammation, regulate immune system function, and augment tissue repair and healing. We believe the ERC-124 product has the potential to treat a range of diseases, including ischemic conditions, cardiovascular disease, certain neurological diseases, autoimmune diseases (such as Type 1 Diabetes), kidney failure, liver failure, pulmonary diseases and a range of orphan disease indications.

Our primary focus is to address the unmet medical needs in Critical Limb Ischemia (CLI), Congestive Heart Failure (CHF), and Type 1 Diabetes. We have been cleared by the Food and Drug Administration (FDA) to begin clinical studies of ERC-124 in the United States for CLI. In addition, we have initiated a Phase II[1] clinical trial in CHF in collaboration with the Bakulev Scientific Center for Cardiovascular Surgery, located in Moscow, Russia.

Results of operations

THREE MONTHS ENDED SEPTEMBER 30, 2013 COMPARED TO THE THREE MONTHS ENDED SEPTEMBER 30, 2012.

Revenues

	Revenue	Change From Prior Year	Three Months Ended September 30, Percent Change From Prior Year
2013	$ 10,000	$ 10,000	N/A
2012			

Revenue generated for the three months ended September 30, 2013 was from a one-time exclusive license of a non-core patent to an unrelated party. We do not anticipate generating additional revenues in the year ended December 31, 2013.

Research and development (R&D) expenses

	Research & Development	Change From Prior Year	Three Months Ended September 30, Percent Change From Prior Year
2013	$ 65,354	$ (52,050)	-44%
2012	117,404		

Research and development expenses are comprised primarily of contracted research payments, the cost of internal research personnel, the cost of cell manufacturing, expensing our costs related to our intellectual property and travel expense. For the three months ended September 30, 2013,

[1] The Russian regulatory system does not use Phase nomenclature and the FDA has not approved or cleared any clinical trials of ERCs for CHF in the U.S. or any other country. The FDA has no jurisdiction over our Russian clinical trial in CHF; however, we have structured and are endeavoring to conduct this trial in conformity with FDA guidelines, and this trial has been approved by Russian authorities.

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research and development expenses decreased $52,050 or 44% over the three months ended September 30 of the prior year, primarily due to decreased study expenses related to our Phase II CHF clinical study at the Bakulev Scientific Center for Cardiovascular Surgery.

As we continue to recruit subjects for our Phase II CHF study in Russia, we anticipate contract research and development expenses to increase through the remainder of 2013. We also expect increased ERC production and shipment expenses as ERC-124 inventories are replenished at the Bakulev Scientific Center for Cardiovascular Surgery.

General and administrative expenses

		Three months ended September 30,	
	General and Administrative	Change From Prior Year	Percent Change From Prior Year
2013	$ 201,437	$ 116,621	137%
2012	84,816		

General and administrative expenses are comprised primarily of internal personnel expenses; non-cash compensation; professional fees and marketing efforts. For the three months ended September 30, 2013, general and administrative expenses increased $116,621 or 137% over the three months ended September 30 of the prior year, primarily due to increased stock-based compensation combined with accounting and legal fees associated with returning to a public reporting status.

We expect general and administrative expenses to increase through the remainder of 2013 as we complete our efforts to return to a public reporting status. Once the non-recurring efforts to return to a public reporting status are complete, we anticipate continued increased professional fee expenses associated with ongoing public reporting requirements and increased use of outside accounting and legal services for our continued operations and any financings.

Operating loss

		Three Months Ended September 30,	
	Operating Loss	Change From Prior Year	Percent Change From Prior Year
2013	$ (256,791)	$ 54,571	27%
2012	(202,220)		

For the three months ended September 30, 2013, the operating loss increased $54,571, or 27% over the three months ended September 30 of the prior year due to increased general and administrative expenses, the specifics of which are described above.

We expect to incur continued operating losses through the remainder of 2013 as we continue to develop ERC therapies.

Interest expense

		Three months ended September 30,	
	Interest Expense	Change From Prior Year	Percent Change From Prior Year

2013	$ (10,169)	$ 6,835	205%
2012	(3,334)		

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Interest expense is comprised primarily of interest accrued on our convertible debt and interest incurred on trade payables. For the three months ended September 30, 2013, interest expense increased $6,835 or 205% over the three months ended September 30 of the prior year due to higher convertible debt and trade payable balances.

Income tax provision

We are in a taxable loss position. We do not expect to incur income tax expense in the immediate future.

Net Loss

	Net Loss	Three months Ended September 30, Change From Prior Year	Percent Change From Prior Year
2013	$ (266,960)	$ 61,406	30%
2012	(205,554)		

For the three months ended September 30, 2013, the net loss increased $61,406, or 30%, due to increased general and administrative expenses, the specifics of which are described above.

Nine months ended September 30, 2013 compared to nine months ended September 30, 2012.

Revenues

	Revenue	Nine Months Ended September 30, Change From Prior Year	Percent Change From Prior Year
2013	$ 10,000	$ 10,000	N/A
2012			

Revenue generated for the nine months ended September 30, 2013 was from a one-time, exclusive license of a non-core patent to an unrelated party. We do not anticipate generating additional revenues in the year ended December 31, 2013.

Research and development (R&D) expenses

	Research & Development	Nine months ended September 30, Change From Prior Year	Percent Change From Prior Year
2013	$ 274,637	$ (143,957)	-34%
2012	418,594		

Research and development expenses are comprised primarily of contracted research payments, the cost of internal research personnel, the cost of cell manufacturing, expensing our costs related to our intellectual property and travel expense. For the nine months ended September 30, 2013, research and development expenses decreased $143,957 or 34% over the nine months ended September 30 of the prior year, primarily due to decreased study expenses related to our Phase II CHF clinical study at the Bakulev Scientific Center for Cardiovascular Surgery.

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As we continue to recruit subjects for our Phase II CHF study in Russia, we anticipate contract research and development expenses to increase through the remainder of 2013. We also expect increased ERC-124 production and shipment expenses as ERC-124 inventories are replenished at the Bakulev Scientific Center for Cardiovascular Surgery.

General and administrative expenses

	General And Administrative	Nine Months Ended September 30, Change From Prior Year	Percent Change From Prior Year
2013	$ 569,711	$ 233,654	70%
2012	336,057		

General and administrative expenses are comprised primarily of internal personnel expenses; non-cash compensation; professional fees and marketing efforts. For the nine months ended September 30, 2013, general and administrative expenses increased $233,654 or 70% over the nine months ended September 30 of the prior year, primarily due to $287,615 of restricted share and stock option issuance expense and accounting and legal fees associated with returning to a public reporting status offset by reductions in discretionary expenditures.

We expect general and administrative expenses to increase through the remainder of 2013 as we complete our efforts to return to a public reporting status. Once the non-recurring efforts to return to a public reporting status are complete, we anticipate continued increased professional fee expenses associated with ongoing public reporting requirements and increased use of outside accounting and legal services for our continued operations and any financings.

Operating loss

	Operating Loss	Nine Months Ended September 30, Change From Prior Year	Percent Change From Prior Year
2013	$ (834,348)	$ 79,697	11%
2012	(754,651)		

For the nine months ended September 30, 2013, the operating loss increased $79,697, or 11%, due to increased general and administrative expenses offset by reduced research and development expenses, the specifics of which are described above.

We expect to incur continued operating losses through the remainder of 2013 as we continue to develop ERC-124 therapies.

Interest expense

	Interest Expense	Nine Months Ended September 30, Change From Prior Year	Percent Change From Prior Year
2013	$ (21,874)	$ 8,212	60%

2012	(13,662)

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Interest expense is comprised primarily of interest accrued on our convertible debt and interest incurred on trade payables. For the nine months ended September 30, 2013, interest expense increased $8,212, or 60%, over the nine months ended September 30 of the prior year due to higher convertible note and trade payable balances.

Income tax provision

We are in a taxable loss position. We do not expect to incur income tax expense in the immediate future.

Net loss

	Net Loss	Nine Months Ended September 30, Change From Prior Year	Percent Change From Prior Year
2013	$ (856,222)	$ 87,909	11%
2012	(768,313)		

For the nine months ended September 30, 2013, the net loss increased $87,909, or 11%, over the nine months ended September 30 of the prior year due to increased general and administrative expenses offset by lower research and development expenses, the specifics of which are described above.

Liquidity and capital resources

We require significant additional cash resources to fund the expenditures necessary to maintain our operating infrastructure, to pay for research and development activities, and to pay our personnel and management team. As we seek to further expand our pre-clinical and clinical programs and expand our intellectual property portfolio, we will need cash to fund such activities and enable in-licensing opportunities and other research and development endeavors.

We have historically relied on financing activities to provide the cash needed for our operating expenses. At December 31, 2012 we had cash of $6,654. As of September 30, 2013 we had cash of $510,886.

We expect that cash infusions from future equity or debt offerings, or both, will permit us to finance our existing operating activities for the next twelve months. Without such financings, however, we would be unable to continue operations. There can be no assurance that such equity or borrowings will be available or, if available, will be at rates or prices acceptable to us. Our auditor has stated in the audit report that there is substantial doubt about our ability to continue as a going concern. Furthermore, in connection with the merger, Medistem incurred an additional $700,000 in debt financing from Intrexon and is subject to certain restrictive covenants under the merger agreement, which could prevent it from obtaining additional equity or debt financing on favorable terms, if at all.

Cash flows

Operating activities

Cash used for operating activities for the nine months ended September 30, 2013 was $375,468 compared to $549,714 for the nine months ended September 30, 2012. The decrease relates

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primarily to a $158,077 increase in accounts payable and an increase of $167,814 in non-cash compensation for the 2013 period.

Investing activities

We had no material cash flows for investing activities for the nine months ended September 30, 2013 and 2012

Financing activities

Cash provided by financing activities for the nine months ended September 30, 2013 totaled $879,700 compared to $498,420 for the nine months ended September 30, 2012. Funds were secured through the issuance of common stock and convertible notes.

Off-balance sheet arrangements

We have no off-balance sheet arrangements.

Critical accounting policies, judgments and estimates

Significant recent accounting pronouncements

Management has evaluated significant recent accounting pronouncements that are not yet effective for the Company and does not believe any such pronouncements will have a significant effect on our present or future financial statements.

Use of estimates

The preparation of financial statements in conformity with United States generally accepted accounting principles (GAAP) requires management to make estimates and assumptions that affect the amounts reported in the financial statements and disclosures made in the accompanying notes to the financial statements. Actual results could differ materially from those estimates.

Cash and cash equivalents

Accounting standards define "cash and cash equivalents" as any short-term, highly liquid investment that is both readily convertible to known amounts of cash and so near their maturity that they present insignificant risk of changes in value because of changes in interest rates. For the purpose of financial statement presentation, we consider all highly liquid investment instruments with original maturities of three months or less when purchased, or any investment redeemable without penalty or loss of interest, to be cash equivalents. As of September 30, 2013 and 2012, we had no assets that were classified as cash equivalents.

*Fair value of financial instrument*s

The carrying amount of our cash, accounts payable and accrued liabilities approximates their estimated fair values due to the short-term maturities of those financial instruments. The carrying amount of the notes payable approximates their fair value due to the short maturity of the notes and as the interest rate approximates current market interest rates for similar instruments.

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The Company does not have any assets or liabilities that are measured at fair value on a recurring or non-recurring basis.

Concentration of credit risk

Cash is maintained at one financial institution in two checking accounts. At September 30, 2013, the Federal Deposit Insurance Corporation s maximum level of deposit insurance at financial institutions was $250,000. Our cash balances are above such insured amounts for the period ended September 30, 2013 and were below such insured amounts for the period ended December 31, 2012.

Long-lived assets

ASC 360 "Impairment or Disposal of Long-Lived Assets" requires that long-lived assets be reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable.

We evaluate long-lived assets for impairment annually or whenever changes in circumstances indicate that the carrying amount of the asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to future undiscounted cash flows expected to be generated by the asset. If assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amounts exceed the fair values of the assets. Assets to be disposed of are reported at the lower of carrying values or fair values, less costs of disposal.

Revenue recognition

We recognize revenues when such revenues are earned in accordance with the relevant agreements.

Stock-based compensation

We account for stock-based compensation in accordance with ASC 718, "Compensation - Stock Compensation" (ASC 718). ASC 718 requires companies to estimate the fair value of equity-based payment awards on the date of grant using an option-pricing model.

We estimate the fair value of stock options granted using the Black-Scholes-Merton option-pricing model.

We account for employee share-based payment awards classified as equity awards using the grant-date fair value method. The fair value of share-based payment transactions is recognized as an expense over the requisite service period, net of estimated forfeitures. We estimate forfeitures based on historical experience and anticipated future conditions.

When stock options are granted as consideration for services provided by consultants and other non-employees, the grant is accounted for based on the fair value of the consideration received or the fair value of the stock options issued, whichever is more reliably measurable. The fair value of the options granted is measured on a final basis at the end of the related service period and is recognized over the related service period using the accelerated method.

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The assumptions below are relevant to restricted shares granted in 2012:

In accordance with ASC 718, restricted stock awards are measured at their grant date fair value. All restricted shares to employees and non-employees granted in 2012 were granted for nominal consideration; therefore their fair value was equal to the fair value on the date of issuance. The estimated fair value of the restricted stock of $0.20 per share is being recognized as compensation expense on a straight-line basis over the vesting period of five years.

Quantitative and qualitative disclosures about market risk

Market risk represents the risk of loss that may impact our financial position, results of operations, or cash flows due to adverse changes in financial and commodity market prices and rates. As of September 30, 2013 we do not believe we are exposed to significant market risks due to changes in U.S. interest rates or foreign currency exchange rates as measured against the U.S. dollar.

Inflation and seasonality

We do not believe that our operations are significantly impacted by inflation. Our business is not seasonal in nature.

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Medistem management

The names, ages and positions of our directors and executive officers are listed below:

Name	Age	Position(s)
Alan J. Lewis, Ph.D.	68	Director, Chief Executive Officer
Thomas E. Ichim, Ph.D.	38	Director, President and Chief Scientific Officer
John P. Salvador, J.D.	45	Chief Operations Officer
Donald F. Dickerson	48	Chief Financial Officer
Vladimir Bogin, M.D.(2)	40	Chairman
Vladimir Zaharchook-Williams(1)	47	Vice Chairman
Sergey Sablin(2)	53	Director
John Chiplin, Ph.D.(2)	54	Director
Herm Rosenman(1)	65	Director

(1) Member of the Audit Committee

(2) Member of the Compensation Committee

Executive officers

Alan J. Lewis, Ph.D., has served on our board of directors and as our Chief Executive Officer since October 2012. Dr. Lewis was elected to the board of directors as a result of his appointment as our Chief Executive Officer of Medistem, and his in depth knowledge of the pharmaceutical industry. From November 2011 to October 2012, Dr. Lewis served as a member of the Boards of Directors of Cytochroma, Inc. (since acquired by OPKO Health), Biotica Technology Limited and America Stem Cell, Inc., as well as advising Medistem. From July 2010 to November 2011, he served as President, CEO and Chairman of Ambit BioSciences, and from January 2009 to June 2010 served as President and CEO of the Juvenile Diabetes Research Foundation. From January 2006 to December 2008, he was President, CEO and Director of Novocell, Inc., a private stem cell company. From February 1994, served as CEO and Director of Signal Pharmaceuticals before its acquisition in June 2000 by Celgene, Inc., a biopharmaceutical company, after which he served as President of the Signal Research Division at Celgene until January 2006. From February 1989 to February 1994, Dr. Lewis held the position of Vice President of Research at Wyeth-Ayerst, where he led research efforts in diabetes, CNS, cardiovascular, inflammatory, allergy, and bone metabolism diseases. Dr. Lewis has also served as a Director of BioMarin Pharmaceutical Inc., since June 2005. He holds a Ph.D. in pharmacology from the University of Wales in Cardiff and completed his postdoctoral training at Yale University.

Thomas E. Ichim, Ph.D., served as our Chief Executive Officer from March 2008 to October 2012 and since October 2012 has served as our President and Chief Scientific Officer. Dr. Ichim was elected to the board of directors as a result of his appointment as our Chief Scientific Officer, and his in depth knowledge of the pharmaceutical industry and of our company. Dr. Ichim is a seasoned biotechnology entrepreneur and has founded/co-founded several companies including Medvax Pharma Corp, ToleroTech Inc., bioRASI, and OncoMune LLC. To date he has published 87 peer-reviewed articles and is co-editor of the textbook RNA Interference: From Bench to Clinical Translation . Dr. Ichim is an ad-hoc editor and sits on several editorial boards. Dr. Ichim is inventor on over 30 patents and patent applications.

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John P. Salvador has served as our Chief Operating Officer since December 2012. Previously, since February 2010, Mr. Salvador served as Director of Corporate Communications and Investor Relations for Aethlon Medical, Inc. From April 2007 to January 2010, Mr. Salvador served as Executive Director of Business, Legal Affairs and Investor Relations for Left Behind Games, Inc., a religious oriented video game company. Mr. Salvador, from March 2005 to March 2007, also served as head of investor relations for People s Choice Financial Corporation. Mr. Salvador holds a Juris Doctor from Boston University.

Donald F. Dickerson has served as our Chief Financial Officer since August 2011. Mr. Dickerson also functions as our Chief Accounting Officer and Controller. From March 2009 to August 2011, Mr. Dickerson served as Managing Director of GMT Ventures, a venture capital firm. From April 2005 to August 2009, Mr. Dickerson served as a Vice President of Finance for JPMorgan Chase & Co. Mr. Dickerson has over 24 years of successful experience in senior business management leadership roles. Working in diverse business environments spanning Fortune 500 companies such as Boeing and Dell to smaller start-ups in the clinical trials arena, he has successfully launched domestic and international divisions and has re-engineered existing operations to accelerate sales and profit growth. Mr. Dickerson holds an MBA from the University of Southern California.

Non-executive directors

Vladimir Bogin, M.D., joined our board of directors in July 2010 and serves as our Chairman of the board of directors. Dr. Bogin was elected to the board of directors as a result of his investment in the company and his in depth knowledge and experience in clinical research in the US and Russia. Since August 2006, Dr. Bogin has also served as Chief Executive Officer for Cromos Pharma, LLC, a contract research organization (CRO) that he founded, and that specializes in biopharmaceutical clinical outsourcing to Russia, Ukraine and countries of Eastern Europe. For over 15 years, Dr. Bogin has been involved in the drug development cycle, from basic discovery research, to clinical trial initiation, to multi-center Phase III and IV trials. Dr. Bogin was trained at Yale and Brown, received his M.D. degree from Moscow State University of Medicine and Dentistry and held director-level positions with several international pharmaceutical companies before founding Cromos Pharma, LLC.

Vladimir Zaharchook-Williams, M.B.A ., joined our board of directors in July 2010 and serves as our Vice Chairman of the board of directors. Mr. Zaharchook-Williams was elected to the board of directors as a result of his investment in the company and his in depth knowledge and experience in the investment community in the US and Russia. Since 1996, Mr. Zaharchook-Williams has been a Principal at Prudential Northwest Properties where he advises on residential sales and real estate development for private investors. The Wall Street Journal has named Mr. Zaharchook-Williams as one of the most successful Real Estate Brokers in the U.S. for 7 years running. Previous to Prudential Northwest Properties, he organized private business enterprises in the Post-Soviet Russia, helped develop the banking sector, and occupied top managerial positions in a number of Russian companies including Formika and Kronos. Mr. Zaharchook-Williams was awarded both a Bachelors and a Master s degree from the St. Petersburg University of Economics & Finance. He is also a graduate of the School of Bank Managers in Moscow, Russia, and the School of Upper Managerial Personnel for Insurance Companies also located in Moscow, Russia. Mr. Zaharchook-Williams has over 20 publications in the field of Currency/Monetary Circulation and Banking Loans.

Sergey O. Sablin, Ph.D., joined our board of directors in July 2010. In October 2003, Dr. Sablin co-founded Medivation, Inc., which became a $4 billion biopharmaceutical corporation traded on

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NASDAQ, and served as its Scientific Director until December 2005. Dr. Sablin was elected to the board of directors as a result of his investment in the company and his in depth knowledge of the pharmaceutical industry in the US and Russia. In May 1998 Dr. Sablin founded Selena Pharmaceuticals, Inc., a company focused on research and development of medications to treat neurological disorders, and served as its CEO until December 2008. Since January 2008 to present, Dr. Sablin has also served as Partner for D2E, LLC, a company that is focused on research and development of medications to treat neurological disorders. In addition, from December 2010 to December 2011, Dr. Sablin served as a member of the Investment Committee of Bio-Fund, Russian Venture Company, a venture group specializing in the biotechnology sector. Dr Sablin received his Ph.D. in biochemistry from the Lomonosov Moscow State University and is an author of over 40 scientific publications and patents.

John Chiplin, Ph.D., joined our board of directors in January 2013. Dr. Chiplin has over 25 years of experience as a biopharmaceutical executive. Dr. Chiplin was elected to the board of directors because of his in depth knowledge of the pharmaceutical industry. Since January 2000, Dr. Chiplin has served as Managing Director of Newstar Ventures, Ltd., an international investment fund, focused on providing direct investments, advisory, and independent analytical capabilities to small-medium sized companies. In addition, since May 2012, Dr. Chiplin has also served as Chief Executive Officer of Polynoma, Inc., a biotech company with a cancer vaccine product in Phase III clinical trials. In January 2007, Dr. Chiplin founded Arana Therapeutics, a new generation antibody developer, and served as its Chief Executive Officer until its acquisition in August 2009 by Cephalon, Inc. From January 2006 Dr. Chiplin also served on the board of directors of Domantis, Inc., until its acquisition by GlaxoSmithKline in December 2006. Before founding Arana, Dr. Chiplin was Managing Director of U.K. based ITI Life Sciences investment Fund. Dr. Chiplin holds Pharmacy and Doctoral degrees from the University of Nottingham, UK.

Herm Rosenman joined our board of directors in May 2013 and serves as the Chair of our Audit Committee. Mr. Rosenman was elected to the board of directors because of his in depth knowledge of public companies and the pharmaceutical industry. Before joining our Board, Mr. Rosenman was the Senior Vice President of Finance and Chief Financial Officer of Gen-Probe Incorporated, where he was instrumental in its 2002 IPO, as well as in its later 2012 sale to Hologic, Inc. for $3.7 billion. Preceding his work with Gen-Probe, Mr. Rosenman served as President and Chief Executive Officer of Ultra Acquisition Corp. (1997-2000); President and Chief Executive Officer of RadNet Management, Inc. (1994-1997); Chief Financial Officer of Rexene Corp. (1988-1990); and partner at Coopers & Lybrand (now PricewaterhouseCoopers LLP) through 1988. Mr. Rosenman has served in board, audit chair, and lead independent director capacities at ARYx Therapeutics (NASDAQ), Infinity Pharmaceuticals, Inc. (NASDAQ), Emphasys Medical, Inc., and Discovery Partners International, Inc. (NASDAQ). A CPA, Mr. Rosenman received a B.B.A. in finance and accounting from Pace University and an M.B.A. in finance from the Wharton School of the University of Pennsylvania.

Family relationships

There are no family relationships between or among any of our directors or executive officers.

Except for the lock-up agreement and voting agreement described in this proxy statement/prospectus in connection with the merger, there are no arrangements or understandings between any two or more of our directors or executive officers, and there is no arrangement, plan or understanding as to whether non-management shareholders will exercise their voting

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rights to continue to elect the current board of directors. There are also no arrangements, agreements or understandings between non-management shareholders that may directly or indirectly participate in or influence the management of our affairs.

Involvement in legal proceedings

Except for the class action litigation described in this proxy statement/prospectus, to the best of our knowledge, during the past ten years, none of the following occurred with respect to a present or former director or executive officer of the Company: (1) any bankruptcy petition filed by or against such person or any business of which such person was a general partner or executive officer either at the time of the bankruptcy or within two years prior to that time; (2) any conviction in a criminal proceeding or being subject to a pending criminal proceeding (excluding traffic violations and other minor offenses); (3) being subject to any order, judgment or decree, not subsequently reversed, suspended or vacated, of any court of any competent jurisdiction, permanently or temporarily enjoining, barring, suspending or otherwise limiting his involvement in any type of business, securities or banking activities; (4) being found by a court of competent jurisdiction (in a civil action), the SEC or the Commodities Futures Trading Commission to have violated a federal or state securities or commodities law, and the judgment has not been reversed, suspended or vacated; and (5) being the subject of, or a party to, any federal or state judicial or administrative order, judgment, decree or finding, not subsequently reversed, suspended or vacated, relating to an alleged violation of any federal or state securities or commodities law or regulation, law or regulation respecting financial institutions or insurance companies or law or regulation prohibiting mail or wire fraud or fraud in connection with any business entity; or (6) being the subject of, or a party to, any sanction or order, not subsequently reversed, suspended or vacated, of any self-regulatory organization (as defined in Section 3(a)(26) of the Securities Exchange Act), any registered entity (as defined in Section 1(a)(29) of the Commodity Exchange Act), or any equivalent exchange, association, entity or organization that has disciplinary authority over its members or associated persons.

Code of conduct

On February 28, 2008, the board of directors approved a "Code of Conduct, which applies to our board of directors, executive officers and employees. The Code of Conduct is posted on our website, www.medisteminc.com .

Committees of the board of directors

Our board of directors has the following standing committees: an Audit Committee and a Compensation Committee. The charters of our Audit and Compensation Committees, are posted on our website, www.medisteminc.com. In connection with Medistem s evaluation of potential business combinations including the merger, our board of directors also established a Transaction Committee comprised of Messrs. Vladimir Bogin, Alan J. Lewis, Ph.D. and John Chiplin on November 7, 2013.

Compensation committee

John Chiplin (the Chairman), Vladimir Bogin, and Sergey Sablin serve as members of the Compensation Committee. Our board of directors has delegated to the Compensation Committee strategic and administrative responsibility on a broad range of issues. The Compensation

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Committee's basic responsibility is to assure that the Chief Executive Officer, other officers, and key management are compensated effectively in a manner consistent with our compensation strategy and competitive practice. In addition, the Compensation Committee is responsible for establishing general compensation guidelines for non-management employees.

The Compensation Committee will be responsible for overseeing and, as appropriate, making recommendations to the Board regarding the annual salaries and other compensation of our executive officers, our general employee compensation and other policies and providing assistance and recommendations with respect to our compensation policies and practices. The Compensation Committee is authorized to carry out these activities and other actions reasonably related to the Compensation Committee's purposes or assigned by the Board from time to time. The Committee's specific responsibilities are delineated in its charter.

Audit committee

Herm Rosenman (the Chairman), and Vladimir Zaharchook-Williams serve as members of the Audit Committee. We believe that Mr. Rosenman is an "audit committee financial expert" as that term is defined by Item 407 of Regulation S-K.

The Audit Committee assists the board of directors in its oversight of the quality and integrity of our accounting, auditing, and reporting practices. The Audit Committee's role includes overseeing the work of our internal accounting and financial reporting and auditing processes and discussing with management our processes to manage business and financial risk, and compliance with significant applicable legal, ethical, and regulatory requirements. The Audit Committee is responsible for the appointment, compensation, retention, and oversight of the independent auditor engaged to prepare or issue audit reports on our financial statements and internal control over financial reporting. The Audit Committee relies on the expertise and knowledge of management in carrying out its oversight responsibilities. The Audit Committee's specific responsibilities are delineated in its charter.

Nominating committee

We do not have a formal Nominating Committee, however our board of directors acts in this capacity.

Board leadership structure

Separate people will hold the positions of Chairman of the Board and Chief Executive Officer. Vladimir Bogin is the Chairman of the Board. The Chairman of the Board will provide leadership to the board and work with the board to define its structure and activities in the fulfillment of its responsibilities. The Chairman of the Board will set the board agendas with board and management input, facilitate communication among directors, provide an appropriate information flow to the board and preside at meetings of the board of directors and shareholders. The Chairman of the Board will work with other board members to provide strong, independent oversight of the company s management and affairs. Future modification of the board leadership structure will be made at the sole discretion of our board of directors.

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Medistem executive compensation

The following table sets forth for the two years ended December 31, 2012 and December 31, 2011 the compensation awarded to, paid to, or earned by each person who in 2012 served as our Chief Executive Officer, and our executive officers whose total compensation during the year ended December 31, 2012 exceeded $100,000.

Summary Compensation Table

Name and Principal Position	Year	Salary ($)	Bonus ($)	Stock Awards ($)	Option Awards ($)	Non-Equity Incentive Plan Compensation ($)	Nonqualified Deferred Compensation Earnings ($)	All Other Compensation ($)	Total Compensation ($)
Alan J. Lewis(1)	2012				10,784				10,784
Chief Executive Officer	2011								
Thomas E. Ichim	2012	147,500	20,000	102,857					270,357
President & Chief Scientific Officer	2011	132,140							132,140

(1) Dr. Lewis became an officer on October 6, 2012 and did not accrue nor receive any compensation from October 6, 2012 through December 31, 2012, because the contingency set forth in his employment agreement has not been met.

Outstanding Equity Awards at Fiscal Year-End

The following table presents, for each named executive officer, information regarding outstanding stock options and restricted stock held as of December 31, 2012:

	Option Awards				Stock Awards	
Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)	Option Expiration Date	Number of Shares or Units of Stock that Have not Vested (#)	Market Value of Shares of Units of Stock that Have not Vested ($)(6)

Alan J. Lewis	50,000	.35	1/14/17		
	4,000	12.50	2/1/16		
	2,000	10.00	7/3/16		
Thomas E. Ichim	80,000	3.00	1/2/17	514,286(5)	591,429

We did not engage in any repricings or other modifications or cancellations to any of our named executive officers outstanding option awards during the year ended December 31, 2012.

Employment agreements

On October 6, 2012, we entered into an employment agreement with Dr. Lewis. Pursuant to the agreement, Dr. Lewis is entitled to receive a base salary of $350,000 and is eligible for year-end bonus awards based upon individual performance. The employment agreement provides, however, that Dr. Lewis will not accrue nor receive any salary until such time that we close a debt or equity financing in which the gross proceeds to the Company equals or exceeds $3 million; or

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complete a corporate partnership transaction that includes gross proceeds to the Company of at least $3 million to support our general and administrative expenses. The employment agreement called for us to issue 1,183,000 stock options to Dr. Lewis. The employment agreement does not have a fixed termination date.

On March 18, 2008, Dr. Ichim was appointed Chief Executive Officer and served in that capacity until October 6, 2012, when he became our President and Chief Scientific Officer.

On October 6, 2012, we entered into an employment agreement with Dr. Ichim. Pursuant to the agreement, Dr. Ichim is entitled to receive a base salary of $275,000 and is eligible for year-end bonus awards based upon individual performance. The employment agreement provides, however, that Dr. Ichim will not accrue nor receive any salary until such time that we close a debt or equity financing in which the gross proceeds to the Company equals or exceeds $3 million; or complete a corporate partnership transaction that includes gross proceeds to the Company of at least $3 million to support our general and administrative expenses. The employment agreement called for us to issue 300,000 stock options to Dr. Ichim. The employment agreement does not have a fixed termination date.

In addition, for approximately six months after October 6, 2012, Dr. Ichim received cash payments totaling $98,500 from us, which we have characterized as additional compensation.

On October 6, 2012, we entered into an employment agreement with Mr. Dickerson. Pursuant to the agreement, Mr. Dickerson is entitled to receive a monthly base salary of $4,000, and is eligible for year-end bonus awards based upon individual performance. The employment agreement provides, however, that Mr. Dickerson will not accrue nor receive any salary until such time that we close a debt or equity financing in which the gross proceeds to the Company equals or exceeds $3 million; or complete a corporate partnership transaction that includes gross proceeds to the Company of at least $3 million to support our general and administrative expenses. The employment agreement called for us to issue 100,000 stock options to Mr. Dickerson. The employment agreement does not have a fixed termination date.

On November 1, 2012, we entered into an employment agreement with John P. Salvador. Pursuant to the agreement, Mr. Salvador is entitled to receive a base salary of $200,000 and is eligible for year-end bonus awards based upon individual performance. The employment agreement provides, however, that Mr. Salvador will not accrue nor receive any salary until such time that we close a debt or equity financing in which the gross proceeds to the Company equals or exceeds $3 million; or complete a corporate partnership transaction that includes gross proceeds to the Company of at least $3 million to support our general and administrative expenses. The employment agreement called for us to issue 500,000 stock options to Mr. Salvador. The employment agreement does not have a fixed termination date.

Restricted stock awards

On June 16, 2012 our board of directors awarded unvested restricted shares to certain Board and management members as compensation for services rendered from 2010 through 2012. Dr. Bogin was granted 1,714,286 restricted shares, Mr. Zaharchook-Williams was granted 1,142,857 restricted shares, Dr. Sablin was granted 857,143 restricted shares, Dr. Ichim was granted 514,286 restricted shares and Mr. Dickerson was granted 186,214 restricted shares. These unvested restricted shares will vest on the earliest of June 16, 2017, or the closing of an underwritten public offering of shares of our Common Stock for gross proceeds of at least $20,000,000, or the

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occurrence of a change in control; provided that these shares may be repurchased by us for a nominal price if, before they vest, we have not raised at least $1,200,000 from stock sales between June 16, 2012 and May 1, 2015. We valued the compensatory aspect of these issuances at $0.20 per share.

Director compensation

The following director compensation disclosure reflects all compensation awarded to, earned by or paid to the directors as such for the year ended December 31, 2012.

Name	Fees Earned or Paid in Cash ($)	Stock Awards ($)(1)	Option Awards ($)	Non-Equity Incentive Plan Compensation ($)	Nonqualified Deferred Compensation Earnings ($)	All Other Compensation ($)	Total ($)
Vladimir Bogin		342,857					342,857
Vladimir Zaharchook-Williams		228,571					228,571
Sergey O. Sablin		171,429					171,429

(1) See Restricted Stock Awards above.

(2) Includes compensation for services rendered from 2010 through 2012.

Directors compensation program

We have entered into Director Services Agreements with each of the members of our board of directors.

In March 2005, we adopted our 2005 Officer and Director Equity Ownership Plan (the "2005 Equity Ownership Plan") which advances our interests by helping us to obtain and retain the services of outside directors upon whose judgment, initiative, efforts and/or services we are substantially dependent, by offering to or providing those persons with incentives or inducements affording them an opportunity to become owners of our capital stock.

It is the policy of the board of directors that, during any time we are a publicly reporting company, a newly elected independent director (within the meaning of the SEC s rules and the independence requirements in the listing requirements of NASDAQ Marketplace Rule 4200(a)(15), may receive under the 2005 Equity Ownership Plan a one-time grant of a non-qualified stock option for shares of our common stock as determined by our Compensation Committee. Additionally, each director may also receive an annual grant of a non-qualified stock option for shares of our common stock as determined by our Compensation Committee. Furthermore, annually the Chair of the Compensation Committee may receive an additional grant of a non-qualified stock option for shares of our common stock as determined by our Compensation Committee. Furthermore, annually the Chair of the Audit Committee may receive an additional grant of a non-qualified stock option for shares of our common stock as determined by our Compensation Committee. The exercise price for the options under the 2005 Equity Ownership Plan will equal the closing price of our common stock on the award date.

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Medistem certain relationships and related transactions, and director independence

The following is a description of transactions since January 1, 2010 to which we have been a party, in which the amount involved exceeded or will exceed $120,000, and in which any of our directors, executive officers or beneficial owners of more than five percent of our voting securities, or affiliates or immediate family members of any of our directors, executive officers or beneficial owners of more than five percent of our voting securities, had or will have a direct or indirect material interest.

Sale of Unicell Bio International, LLC.

On September 18, 2013, Dr. Bogin, Mr. Zaharchook-Williams, Dr. Sablin, Dr. Ichim, and an unaffiliated person sold 100% of the ownership interests in Unicell Bio International, LLC, a Delaware limited liability company, to us for $5.00. Unicell Bio International, LLC holds a 90% interest in ERCell, LLC, our Moscow based ERC Russia/Commonwealth of Independent States commercialization partner, resulting in us now holding a direct 100% ownership interest in Unicell Bio International, LLC, and an indirect 90% ownership interest in ERCell, LLC. This structure is designed to enable us to do business in the territory of Russia and other former Soviet republics. The two limited liability companies and are consolidated subsidiaries of the Company. An unaffiliated person holds a 10% interest in ERCell, LLC.

Transactions with Randber, LLC and affiliates

On August 19, 2013, we borrowed $500,000 from Randber, LLC, an entity controlled by our Vice Chairman Vladimir Zaharchook-Williams, against a $500,000 Promissory Note (the Note) with a conversion price of $0.50 per share. The note had a maturity date of on August 19, 2015. However, we could not use the funds except upon the approval of Mr. Zaharchook-Williams given from time to time. On January 23, 2014, our board of directors authorized the termination of the Note. All unused principal was returned to Randber LLC and we will pay Randber $10,685, which is the accrued interest owed on the Note from the Date of Note to the date of the termination at a semiannual compounded rate of 5%. The accrued interest will be paid as 21,370 shares of Medistem common stock that represents a conversion rate of $0.50 per share the conversion rate stated in the Note. We did not incur any early termination penalties.

On October 15, 2012, the Company issued, in a private placement, at par, a $50,000 two-year, unsecured, convertible note bearing interest at 5% per annum to Randber, LLC. The note was convertible into 142,858 shares of common stock at any time. On November 19, 2013 Randber, LLC converted the note and we issued 142,858 shares of common stock.

On April 1, 2011, we issued, in a private placement, at par, a $100,000 two-year, unsecured, convertible note bearing interest at 5% per annum to Randber, LLC, with the option to convert into 500,000 shares of common stock at any time. On November 30, 2011, Randber, LLC converted the note and we issued 500,000 shares of common stock to Randber, LLC.

Restricted stock awards

On June 16, 2012 our board of directors awarded unvested restricted shares to certain directors and management members as compensation for services rendered from 2010 through 2012.

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Dr. Bogin was granted 1,714,286 restricted shares, Mr. Zaharchook-Williams was granted 1,142,857 restricted shares, Dr. Sablin was granted 857,143 restricted shares, Dr. Ichim was granted 514,286 restricted shares and Mr. Dickerson was granted 186,214 restricted shares. These unvested restricted shares will vest on the earliest of June 16, 2017, or the closing of an underwritten public offering of shares of our common stock for gross proceeds of at least $20,000,000, or the occurrence of a change in control; provided that these shares may be repurchased by us for a nominal price if, before they vest, we have not raised at least $1,200,000 from stock sales between June 16, 2012 and May 1, 2015. We valued the compensatory aspect of these issuances at $0.20 per share.

Option awards

On May 1, 2013, we granted Herm Rosenman, a member of our board of directors, options to purchase 120,000 shares of common stock. The options have an exercise price of $0.35 per share, expire in ten years, and vest 50% upon the grant date, with the remaining vesting on May 1, 2014.

Cromos Pharma, LLC

Cromos Pharma, LLC, a full service contract-research organization (CRO) controlled by Dr. Bogin, our Chairman of the board of directors, provides oversight of our CHF clinical trial at the Bakulev Scientific Center for Cardiovascular Surgery, however, Dr. Bogin has recused himself from the conduct of the study. ERCell, LLC invoices us for services provided by Cromos Pharma, LLC, and ERCell, LLC then pays Cromos Pharma, LLC for such services. In 2012, our indirect expenses for Cromos Pharma, LLC in connection with the CHF clinical trial were $17,500; we expect our indirect expenses in 2013 for Cromos Pharma, LLC in connection with the CHF clinical trial will total approximately $153,000.

Employment agreements

On October 6, 2012, we entered into an employment agreement with Dr. Lewis. Pursuant to the agreement, Dr. Lewis is entitled to receive a base salary of $350,000 and is eligible for year-end bonus awards based upon individual performance. The employment agreement provides, however, that Dr. Lewis will not accrue nor receive any salary until such time that we close a debt or equity financing in which the gross proceeds to the Company equals or exceeds $3 million; or complete a corporate partnership transaction that includes gross proceeds to the Company of at least $3 million to support our general and administrative expenses. The employment agreement called for us to issue 1,183,000 stock options to Dr. Lewis. The employment agreement does not have a fixed termination date.

On October 6, 2012, we entered into an employment agreement with Dr. Ichim. Pursuant to the agreement, Dr. Ichim is entitled to receive a base salary of $275,000 and is eligible for year-end bonus awards based upon individual performance. The employment agreement provides, however, that Dr. Ichim will not accrue nor receive any salary until such time that we close a debt or equity financing in which the gross proceeds to the Company equals or exceeds $3 million; or complete a corporate partnership transaction that includes gross proceeds to the Company of at least $3 million to support our general and administrative expenses. The employment agreement called for us to issue 300,000 stock options to Dr. Ichim. The employment agreement does not have a fixed termination date.

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On November 1, 2012, we entered into an employment agreement with John P. Salvador. Pursuant to the agreement, Mr. Salvador is entitled to receive a base salary of $200,000 and is eligible for year-end bonus awards based upon individual performance. The employment agreement provides, however, that Mr. Salvador will not accrue nor receive any salary until such time that we close a debt or equity financing in which the gross proceeds to the Company equals or exceeds $3 million; or complete a corporate partnership transaction that includes gross proceeds to the Company of at least $3 million to support our general and administrative expenses. The employment agreement called for us to issue 500,000 stock options to Mr. Salvador. The employment agreement does not have a fixed termination date.

Indemnification of directors and officers

Our articles of incorporation provide that we will, to the full extent permitted by law, indemnify and advance or reimburse the expenses of anyone made a party to a proceeding because he is or was a director of the Company. Our bylaws provide that we will indemnify every director, officer, or employee of the Company against all expenses and liabilities, including counsel fees, reasonably incurred by or imposed upon him in connection with any proceedings to which he may become involved, by reason of his service as (by request of the Company), being or having been a director, officer, employee or agent of the Company. Moreover, we have entered into indemnification agreements with each of our members of the board of directors and our Chief Executive Officer, Chief Scientific Officer, Chief Operations Officer, and Chief Financial Officer. We maintain directors and officers liability insurance policies, which insure against liabilities that directors or officers may incur in such capacities. These insurance policies, together with the indemnification agreements, may be sufficiently broad to permit indemnification of our directors and officers for liabilities, including reimbursement of expenses incurred, arising under the securities laws or otherwise.

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Medistem security ownership of certain beneficial owners and management

The following table sets forth certain information with respect to the beneficial ownership of our common stock as December 31, 2013 for: each person whom we know beneficially owns more than 5% of our capital stock; each of our directors; each of our named executive officers; and all of our directors and executive officers as a group.

Beneficial ownership is calculated pursuant to Rule 13d-3(d)(1) of the Securities Exchange Act of 1934. Under Rule 13d-3(d)(1), shares not outstanding that are subject to options, warrants, rights or conversion privileges exercisable by a person within 60 days are deemed outstanding for the purpose of calculating the number and percentage owned by such person but not deemed outstanding for the purpose of calculating the percentage owned by any other person listed. Except where otherwise noted, we believe that each individual or entity named has sole investment and voting power with respect to the shares of Common Stock indicated as beneficially owned by such person, subject to community property laws, where applicable.

The address of each beneficial owner listed in the table below is c/o Medistem Inc., 9255 Towne Centre Drive, #450, San Diego, CA 92121.

Name and Address	Amount and Nature of Beneficial Ownership	Percentage of Beneficial Ownership
Vladimir Bogin(1)(7)	3,643,759	22.6%
Vladimir Zaharchook-Williams(1)(2)(7)	3,097,330	19.2%
Thomas E. Ichim(1)(3)	891,341	5.5%
Sergey O. Sablin(1)(7)	1,521,879	9.4%
Alan J. Lewis(4)	861,096	5.3%
John Chiplin(5)	120,000	*
All Current Directors and Executive Officers as a Group, 9 members (1)(2)(3)(4)(5)(6)(7)	10,929,777	67.8%

* Represents less than 1%.

(1) Includes unvested restricted shares owned by Dr. Bogin (1,714,286 shares), Mr. Zaharchook-Williams (1,142,857 shares), Dr. Sablin (857,143 shares), and Dr. Ichim (514,286 shares) and Mr. Dickerson (186,214 shares).

(2) Includes 642,858 shares owned by Randber LLC, of which Mr. Zaharchook-Williams is 50% owner.

(3) Includes 298,055 shares underlying stock options.

(4) Includes 761,096 shares underlying stock options.

(5) Includes 120,000 shares underlying stock options.

(6) Includes 300,548 shares underlying stock options in favor of Mr. Salvador. Includes 60,110 shares underlying stock options in favor of Mr. Dickerson.

(7) Includes 50,000 shares underlying stock options in favor of Dr. Bogin. Includes 25,000 shares underlying stock options in favor of Mr. Zaharchook-Williams. Includes 25,000 shares underlying stock options in favor of Dr. Sablin.

As of December 31, 2013, there were no preferred shares (and no derivative securities overlying preferred shares) issued and outstanding.

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Advisory vote on merger-related compensation

Medistem is providing its shareholders with the opportunity to vote, on a non-binding, advisory basis, to approve the agreements or understandings between Medistem s named executive officers and Medistem concerning compensation that is based on or otherwise relates to the merger, as required by Section 14A of the Exchange Act and the applicable SEC rules issued thereunder, which were enacted pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. This proposal, commonly known as the say on golden parachute vote, gives Medistem shareholders the opportunity to vote on a non-binding, advisory basis on such agreements or understandings and the related compensation that will or may be paid to its named executive officers in connection with the merger. This non-binding, advisory proposal relates only to already existing contractual obligations of Medistem that may result in a payment or benefit to Medistem s named executive officers in connection with, or following, the consummation of the merger and does not relate to any new compensation or other arrangements between Medistem s named executive officers and Intrexon or any of its subsidiaries.

The compensation payments that Medistem s named executive officers may be entitled to receive in connection with the merger are summarized in the table entitled Golden Parachute Compensation under the section entitled The Merger Interests of Medistem s Directors and Executive Officers in the Merger Quantification of Potential Payments to Medistem Named Executive Officers in Connection with the Merger.

The Medistem board of directors encourages you to carefully review the compensation information disclosed in this proxy statement/prospectus, including in the table described above.

The Medistem board of directors unanimously recommends that the Medistem shareholders approve the following resolution:

RESOLVED, that the shareholders of Medistem approve, solely on a non-binding, advisory basis, the agreements or understandings between Medistem s named executive officers and Medistem and the related compensation that will or may be paid to its named executive officers in connection with the merger, as disclosed pursuant to Item 402(t) of Regulation S-K in the Golden Parachute Compensation table and the related narrative disclosures in the section of the proxy statement/prospectus entitled The Merger Interests of Medistem s Directors and Executive Officers in the Merger Quantification of Potential Payments to Medistem Named Executive Officers in Connection with the Merger.

The vote on the merger-related compensation payments is a vote separate and apart from the vote on the adoption of the merger agreement and is not a condition to completion of the merger. Accordingly, you may vote to adopt the merger agreement and vote not to approve the merger-related compensation payments proposal and vice versa. This proposal is merely an advisory vote and will not be binding on Medistem or Intrexon or the Medistem board of directors regardless of whether the merger agreement is adopted. Further, the underlying agreements and understandings are contractual in nature and not, by their terms, subject to shareholder approval. Regardless of the outcome of the advisory vote, if the merger is completed, Medistem s named executive officers will be eligible to receive the merger-related compensation payments and benefits, in accordance with the terms and conditions applicable to those payments and benefits.

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Approval of this non-binding, advisory merger-related compensation payments proposal requires the affirmative vote of the holders of a majority of the shares of Medistem common stock present, in person or by proxy, at the special meeting and entitled to vote thereon, provided a quorum is present. Abstentions and broker non-votes are not counted as votes for or against this proposal and therefore do not affect the outcome. If you fail to submit a proxy and do not attend the special meeting in person, or if you do not provide your broker or other nominee with voting instructions on the proposal, your shares of Medistem common stock will have no effect on this proposal.

THE MEDISTEM BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT ITS SHAREHOLDERS VOTE FOR THE APPROVAL, ON A NON-BINDING, ADVISORY BASIS, OF THE MERGER-RELATED COMPENSATION PAYMENTS PROPOSAL, AS DISCLOSED IN THIS PROXY STATEMENT/PROSPECTUS.

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Adjournment of the meeting

Although it is not currently expected, the Medistem special meeting may be adjourned to another time or place, if necessary to obtain additional votes in favor of the merger proposal.

If, at the Medistem special meeting, the number of shares of Medistem common stock present or represented and voting in favor of the merger proposal is insufficient to approve such proposal, Medistem may move to adjourn the Medistem special meeting in order to solicit additional proxies in favor of the merger proposal. Medistem does not intend to call a vote on this proposal if the vote on the merger proposal has been approved at the Medistem special meeting unless Medistem is advised by counsel that failure to do so could reasonably be expected to result in a violation of U.S. federal securities laws.

The proposal to adjourn the Medistem special meeting requires the affirmative vote of the holders of a majority of the shares of common stock constituting a quorum at the special meeting.

THE MEDISTEM BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT ITS SHAREHOLDERS VOTE FOR THE APPROVAL OF THE ADJOURNMENT OF THE MEDISTEM SPECIAL MEETING, IF NECESSARY TO SOLICIT ADDITIONAL PROXIES IF THERE ARE NOT SUFFICIENT VOTES TO APPROVE THE MERGER PROPOSAL AT THE TIME OF THE MEDISTEM SPECIAL MEETING.

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Legal matters

The validity of the shares of Intrexon common stock to be issued in the merger will be passed upon by Troutman Sanders LLP. Certain U.S. federal income tax consequences relating to the merger will be passed upon for Intrexon by Troutman Sanders LLP, and for Medistem by Eisner Amper LLP.

Experts

The consolidated financial statements of Intrexon Corporation as of December 31, 2012 and December 31, 2011, and for each of the two years in the period ended December 31, 2012, included in this prospectus have been so included in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

The financial statements of Immunologix, Inc. as of October 20, 2011 and for the period from January 1, 2011 through October 20, 2011, included in this prospectus have been so included in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

The financial statements of GT Life Sciences, Inc. as of October 5, 2011 and for the period from January 1, 2011 through October 5, 2011, included in this prospectus have been so included in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

The financial statements of ZIOPHARM Oncology, Inc. appearing in this Prospectus and Registration Statement of Intrexon Corporation have been audited by McGladrey LLP, an independent registered public accounting firm, as stated in their report appearing elsewhere herein (which report expresses an unqualified opinion and includes an explanatory paragraph relating to the Company s ability to continue as a going concern, and also noted the reliance on other auditors for cumulative amounts from September 9, 2003 (date of inception) through December 31, 2009), and is included in reliance upon such reports and upon the authority of such firm as experts in accounting and auditing.

The statements of operations, changes in preferred stock and stockholders equity (deficit) and cash flows of ZIOPHARM Oncology, Inc, for the period from September 9, 2003 (date of inception) through December 31, 2009, not separately presented in this Prospectus, have been audited by Caturano and Company, P.C. (whose name has since been changed to Caturano and Company, Inc.), an independent registered public accounting firm, as stated in their report appearing elsewhere herein, and is included in reliance upon such report and upon the authority of such firm as experts in accounting and auditing.

The financial statements of Medistem Inc. as of December 31, 2012 and 2011 and for each of the two years in the period ended December 31, 2012 included in this prospectus have been so included in reliance on the report of Squar, Milner, Peterson, Miranda & Williamson, LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

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Future shareholder proposals

General

If the merger is completed, Medistem will become a wholly owned subsidiary of Intrexon and it will not hold its 2014 annual meeting of shareholders and there will be no public participation in any future meetings of shareholders of Medistem. If the merger is not completed, Medistem s shareholders will continue to be entitled to attend and participate in Medistem shareholders meetings and Medistem expects to hold a 2014 annual meeting of shareholders at a date to be determined by its board of directors.

Submission of shareholder proposals for inclusion in proxy statement for 2014 annual meeting of shareholders

If the merger is not completed, Medistem expects that its board of directors will establish a new date, time and place for its 2014 annual meeting of shareholders and Medistem will publicly disclose the new date, time and place of the rescheduled 2014 annual meeting. In such case shareholder proposals will be eligible for consideration for inclusion in the revised proxy statement and form of proxy for the rescheduled 2014 annual meeting of shareholders in accordance with Rule 14a-8 under the Exchange Act. The deadline for shareholders to submit proposals to be considered for inclusion in its revised proxy materials for the rescheduled 2014 annual meeting of shareholders will be a reasonable amount of time before Medistem begins to print and send such proxy materials for the rescheduled 2014 annual meeting of shareholders. This deadline will be publicly disclosed at the time Medistem discloses the date, time and place of the rescheduled 2014 annual meeting of shareholders. Any shareholder proposal submitted for inclusion in the revised proxy materials for the rescheduled 2014 annual meeting of shareholders must comply with applicable requirements of the SEC.

Advance notice procedures for proposing actions for consideration at 2014 annual meeting of shareholders

If the merger is not completed and Medistem s 2014 annual meeting of shareholders is rescheduled, Medistem will publicly disclose the new date, time and place of the rescheduled 2014 annual meeting.

Other matters

As of the date of this proxy statement/prospectus, the Medistem board of directors knows of no matters that will be presented for consideration at the Medistem special meeting other than as described in this proxy statement/prospectus. If any other matters properly come before the Medistem special meeting or any adjournments or postponements of the meeting and are voted upon, the enclosed proxy will confer discretionary authority on the individuals named as proxy to vote the shares represented by the proxy as to any other matters. The individuals named as proxies intend to vote in accordance with their best judgment as to any other matters.

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Where you can find more information

Intrexon and Medistem file annual, quarterly and current reports, proxy statements and other information with the SEC under the Exchange Act. You may read and copy any of this information at the SEC s Public Reference Room at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the Public Reference Room. The SEC also maintains an Internet website that contains reports, proxy and information statements, and other information regarding issuers, including Intrexon and Medistem, who file electronically with the SEC. The address of that site is *www.sec.gov*. Investors may also consult Medistem s and Intrexon s websites for more information concerning the merger described in this proxy statement/prospectus. Medistem s website is *www.medisteminc.com* and Intrexon s website is *www.dna.com* Information included on these websites is not incorporated by reference into this proxy statement/prospectus.

Intrexon has filed with the SEC a registration statement of which this proxy statement/prospectus forms a part. The registration statement registers the shares of Intrexon common stock to be issued to Medistem shareholders in connection with the merger. The registration statement, including the attached exhibits and schedules, contains additional relevant information about Intrexon common stock.

Intrexon and Medistem also incorporate by reference the merger agreement attached to this proxy statement/prospectus as Annex A.

This document is a prospectus of Intrexon and is a proxy statement of Medistem for the Medistem special meeting. You should only rely on the information contained or incorporated by reference into this proxy statement/prospectus to vote on the proposals to the Medistem shareholders in connection with the merger. Neither Intrexon nor Medistem has authorized anyone to give any information or make any representation about the merger or Intrexon or Medistem that is different from, or in addition to, that contained in this proxy statement/prospectus or in any of the materials that Intrexon or Medistem has incorporated by reference into this proxy statement/prospectus. Therefore, if anyone does give you information of this sort, you should not rely on it. The information contained in this proxy statement/prospectus speaks only as of the date of this proxy statement/prospectus unless the information specifically indicates that another date applies.

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Intrexon Corporation

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of operations, consolidated statements of shareholders deficit and consolidated statements of cash flows present fairly, in all material respects, the financial position of Intrexon Corporation and its subsidiaries at December 31, 2012 and December 31, 2011, and the results of their operations and their cash flows for each of the two years in the period ended December 31, 2012 in conformity with accounting principles generally accepted in the United States of America. These financial statements are the responsibility of the Company s management. Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these statements in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP

Charlotte, North Carolina

May 10, 2013, except for the effect of the reverse stock split as described in Note 16, as to which the date is July 26, 2013

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Intrexon Corporation and Subsidiaries

Consolidated Balance Sheets

December 31, 2012 and 2011

(Amounts in thousands, except share and per share data)	2012	2011
Assets		
Current assets		
Cash and cash equivalents	$ 10,403	$ 19,628
Short-term investments	260	258
Receivables		
Trade	141	20
Related parties	531	272
Other	35	1,050
Prepaid expenses and other	2,163	1,750
Total current assets	13,533	22,978
Equity securities	83,116	39,097
Property, plant and equipment, net	18,687	18,484
Intangible assets, net	29,506	32,533
Investment in affiliate	5,726	
Other assets	1,078	1,736
Total assets	$ 151,646	$ 114,828

The accompanying notes are an integral part of these consolidated financial statements.

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Intrexon Corporation and Subsidiaries

Consolidated Balance Sheets

December 31, 2012 and 2011

(Amounts in thousands, except share and per share data)	2012	2011
Liabilities, Redeemable Convertible Preferred Stock and Shareholder s Deficit		
Current liabilities		
Accounts payable	$ 632	$ 3,100
Accrued compensation and benefits	3,766	1,325
Other accrued liabilities	2,208	3,982
Deferred revenue	9,963	1,402
Capital lease obligations, current	49	71
Related party payables	99	279
Subscriptions payable		7,440
Total current liabilities	16,717	17,599
Capital lease obligations, net of current portion	42	97
Deferred revenue	48,673	15,519
Other long term liabilities	1,108	1,191
Total liabilities	66,540	34,406
Commitments and contingencies (Note 12)		
Series A redeemable convertible preferred stock, no par value; $1.21 stated value (liquidation preference of $1,406 and $1,327 as of December 31, 2012 and 2011, respectively); 705,400 shares authorized, issued and outstanding at December 31, 2012 and 2011	1,358	802
Series B redeemable convertible preferred stock, no par value; $0.72 stated value (liquidation preference of $709 and $679 as of December 31, 2012 and 2011, respectively); 694,000 shares authorized, issued and outstanding at December 31, 2012 and 2011	669	639
Series B-1 redeemable convertible preferred stock, no par value; $0.83 stated value (liquidation preference of $1,380 and $1,320 as of December 31, 2012 and 2011, respectively); 1,212,360 shares authorized, issued and outstanding at December 31, 2012 and 2011	1,360	1,300
Series C redeemable convertible preferred stock, no par value; $1.10 stated value (liquidation preference of $7,162 and $6,757 as of December 31, 2012 and 2011, respectively); 4,546,360 shares authorized, issued and outstanding at December 31, 2012 and 2011	7,134	6,729
Series C-1 redeemable convertible preferred stock, no par value; $1.57 stated value (liquidation preference of $34,222 and $32,285 as of December 31, 2012 and 2011, respectively); 15,934,528 shares authorized, issued and outstanding at December 31, 2012 and 2011	34,201	32,264
Series C-2 redeemable convertible preferred stock, no par value; $1.88 stated value (liquidation preference of $44,614 and $42,089 as of December 31, 2012 and 2011, respectively); 18,617,020 shares authorized, issued and outstanding at December 31, 2012 and 2011	44,512	41,987
Series C-3 redeemable convertible preferred stock, no par value; $1.88 stated value (liquidation preference of $29,819 and $28,131 as of December 31, 2012 and 2011, respectively); 13,297,872 shares authorized, issued and outstanding at December 31, 2012 and 2011	29,770	28,082
Series D redeemable convertible preferred stock, no par value; $3.38 stated value (liquidation preference of $76,347 and $72,019 as of December 31, 2012 and 2011, respectively); 19,803,685 shares authorized, issued and outstanding at December 31, 2012 and 2011	76,252	71,924
Series E redeemable convertible preferred stock, no par value; $5.25 stated value (liquidation preference of $214,086 and $120,621 as of December 31, 2012 and 2011, respectively); 38,095,239 shares and 28,571,429 shares authorized at December 31, 2012 and 2011, respectively; 38,095,239 shares and 22,285,716 shares issued and outstanding at December 31, 2012 and 2011, respectively	211,403	117,954

Shareholder s deficit		
Common stock, no par value, 160,000,000 shares and 155,000,000 shares authorized as of December 31, 2012 and 2011, respectively; 5,661,525 and 5,453,893 shares issued and outstanding as of December 31, 2012 and 2011, respectively		
Additional paid-in capital		
Accumulated deficit	(321,553)	(221,259)
Total shareholder s deficit	(321,553)	(221,259)
Total liabilities, redeemable convertible preferred stock and shareholder s deficit	$ 151,646	$ 114,828

The accompanying notes are an integral part of these consolidated financial statements.

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Intrexon Corporation and Subsidiaries

Consolidated Statements of Operations

Years ended December 31, 2012 and 2011

(Amounts in thousands, except share and per share data)	2012	2011
Revenues		
Collaboration revenues	$ 13,706	$ 5,118
Other revenues	219	3,053
Total revenues	13,925	8,171
Operating Expenses		
Research and development	64,185	70,386
General and administrative	24,897	18,300
Other		1,912
Total operating expenses	89,082	90,598
Operating loss	(75,157)	(82,427)
Other Income (Expense)		
Unrealized depreciation in fair value of equity securities	(6,290)	(2,675)
Interest expense	(57)	(183)
Investment income	5	6
Other expense	(101)	(1)
Total other income (expense)	(6,443)	(2,853)
Equity in net loss of affiliate	(274)	
Net loss	$ (81,874)	$ (85,280)
Accretion of dividends on redeemable convertible preferred stock, not declared	(21,994)	(13,868)
Net loss attributable to common shareholders	$ (103,868)	$ (99,148)
Net loss attributable to common shareholders per share, basic and diluted	$ (18.77)	$ (18.92)
Weighted average shares outstanding, basic and diluted	5,533,690	5,240,647
Unaudited pro forma net loss attributable to Intrexon per share (note 14):		
Net loss attributable to Intrexon per share basic and diluted	$ (1.17)	
Weighted average shares basic and diluted	70,055,471	

The accompanying notes are an integral part of these consolidated financial statements.

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Intrexon Corporation and Subsidiaries

Consolidated Statements of Shareholders Deficit

Years ended December 31, 2012 and 2011

(Amounts in thousands, except share data)	Common stock Shares	Common stock Amount	Additional paid-in capital	Accumulated deficit	Total shareholders deficit
Balances at December 31, 2010	2,357,494	$	$	$ (127,734)	$ (127,734)
Stock-based compensation expense			983		983
Exercises of stock options	75,840		184		184
Acquisitions	3,019,294		4,237		4,237
Contribution of services by shareholder			210		210
Shares issued to nonemployee members of the Board of Directors	1,265		9		9
Accretion of dividends on redeemable convertible preferred shares			(5,623)	(8,245)	(13,868)
Net loss				(85,280)	(85,280)
Balances at December 31, 2011	5,453,893			(221,259)	(221,259)
Stock-based compensation expense			1,458		1,458
Exercises of stock options	194,570		473		473
Contribution of services by shareholder			1,550		1,550
Shares issued to nonemployee members of the Board of Directors	13,062		93		93
Accretion of dividends on redeemable convertible preferred shares			(3,574)	(18,420)	(21,994)
Net loss				(81,874)	(81,874)
Balances at December 31, 2012	5,661,525			(321,553)	(321,553)

The accompanying notes are an integral part of these consolidated financial statements.

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Intrexon Corporation and Subsidiaries

Consolidated Statements of Cash Flows

Years ended December 31, 2012 and 2011

(Amounts in thousands)	2012	2011
Cash flows from operating activities		
Net loss	$ (81,874)	$ (85,280)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	7,984	4,338
Loss on disposal of property and equipment	101	1
Unrealized depreciation on equity securities	6,290	2,675
Collaboration revenue recognized upon achievement of milestone	(3,591)	
Equity in net loss of affiliate	274	
Stock-based compensation expense	1,458	983
Contribution of services by shareholder	1,550	210
Shares issued to nonemployee members of the Board of Directors	93	9
Changes in operating assets and liabilities:		
Receivables:		
Trade	(121)	33
Related parties	(93)	(239)
Other	1,015	(400)
Prepaid expenses and other	(413)	(772)
Other assets	658	(614)
Accounts payable	(1,229)	(388)
Accrued compensation and benefits	2,441	(2,249)
Other accrued liabilities	(806)	1,204
Deferred revenue	4,997	(2,245)
Related party payables	(180)	(215)
Other long term liabilities	(83)	1,191
Net cash used in operating activities	(61,529)	(81,758)
Cash flows from investing activities		
Purchases of short term investments	(2)	(188)
Purchases of equity securities	(10,000)	(22,628)
Acquisitions of businesses, net of cash received		(28,662)
Investment in affiliate	(6,000)	
Purchases of property and equipment	(7,491)	(13,003)
Proceeds from sale of property and equipment	23	84
Issuance of related party note receivable	(200)	
Proceeds from related party notes receivable	34	300
Net cash used in investing activities	(23,636)	(64,097)

The accompanying notes are an integral part of these consolidated financial statements.

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Intrexon Corporation and Subsidiaries

Consolidated Statements of Cash Flows

Years ended December 31, 2012 and 2011

(Amounts in thousands)	2012	2011
Cash flows from financing activities		
Proceeds from issuance of Series D redeemable convertible preferred shares		26,442
Proceeds from issuance of Series E redeemable convertible preferred shares	75,560	101,835
Proceeds from issuance of subscriptions payable		7,440
Proceeds from short-term borrowings		15,000
Payments of capital lease obligations	(77)	(115)
Proceeds from stock option exercises	473	184
Payment of stock issuance costs	(16)	(2,675)
Net cash provided by financing activities	75,940	148,111
Net increase (decrease) in cash and cash equivalents	(9,225)	2,256
Cash and cash equivalents		
Beginning of period	19,628	17,372
End of period	$ 10,403	$ 19,628
Supplemental disclosure of cash flow information		
Cash paid during the period for interest	$ 12	$ 18
Significant noncash financing and investing activities		
Conversion of subscriptions payable into Series D redeemable convertible preferred shares	$	2,500
Conversion of subscriptions payable into Series E redeemable convertible preferred shares	7,440	
Conversion of short-term borrowings and accrued interest into Series E redeemable convertible preferred shares		15,165
Accretion of dividends on redeemable convertible preferred shares	21,994	13,868
Stock received as consideration for collaboration agreements	21,979	19,144
Stock received as consideration upon achievement of milestone	18,330	
Equity instruments issued in acquisitions		4,237
Purchases of equipment included in accounts payable and other accrued liabilities	24	2,231

The accompanying notes are an integral part of these consolidated financial statements.

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Intrexon Corporation and Subsidiaries

Notes to Consolidated Financial Statements

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1. Organization and Basis of Presentation

Intrexon Corporation (the Company or Intrexon) was formed in 1998. The Company is a Virginia corporation. During 2011, the Company formed or acquired three subsidiaries in connection with certain acquisitions (Note 3). Intrexon uses synthetic biology for the fabrication of distinct products for collaboration with partners. The Company has operations in California, Florida, Maryland, North Carolina, South Carolina and Virginia. There are currently no treatments or products in production.

These consolidated financial statements are presented in U.S. dollars and are prepared under accounting principles generally accepted in the United States of America (U.S. GAAP). All share and per share data of the Company s common stock, including shares of common stock underlying stock options and warrants, have been retroactively adjusted in the accompanying consolidated financial statements to reflect a reverse stock split (Note 16).

2. Summary of Significant Accounting Policies

Principles of Consolidation

The accompanying consolidated financial statements reflect the operations of the Company and its wholly owned subsidiaries. All intercompany accounts and transactions have been eliminated.

Revenue Recognition

The Company generates revenue through contractual agreements with collaborative partners (known as exclusive channel collaborations, ECC or ECCs) whereby the partners obtain exclusive access to the Company s proprietary technology for use in the research, development and commercialization of products and/or treatments in a contractually specified field of use. Generally, the terms of these collaborative agreements provide that the Company receive some or all of the following: (i) upfront payments upon consummation of the agreement, (ii) reimbursements for costs incurred by the Company for research and development and/or manufacturing efforts related to specific application provided for in the agreement, (iii) milestone payments upon the achievement of specified development, regulatory and commercial activities, and (iv) royalties on sales of products arising from the collaboration.

The Company s collaboration agreements typically contain multiple elements, or deliverables, including technology licenses, research and development services, and in certain cases manufacturing services. Effective January 1, 2011, the Company adopted the provisions of Accounting Standards Update (ASU) No. 2009-13, *Revenue Recognition (Topic 605): Multiple Deliverable Revenue Arrangements* (ASU 2009-13). In accordance with the provisions of ASU 2009-13, the Company identifies the deliverables within the agreements and evaluates which deliverables represent separate units of accounting. Analyzing the agreements to identify deliverables requires the use of judgment. A deliverable is considered a separate unit of accounting when the deliverable has value to the collaborative partner on a standalone basis based on the consideration of the relevant facts and circumstances for each agreement.

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(Amounts in thousands, except share and per share data)

Consideration received is allocated at the inception of the agreement to all identified units of accounting based on their relative selling price. When available, the relative selling price for each deliverable is determined using vendor specific objective evidence (VSOE) of selling price or third-party evidence of selling price, if VSOE does not exist. If neither VSOE nor third-party evidence of selling price exists, the Company uses its best estimate of the selling price (BESP) for the deliverable. The amount of allocable consideration is limited to amounts that are fixed or determinable. The consideration received is allocated among the separate units of accounting, and the applicable revenue recognition criteria are applied to each of the separate units. The Company recognizes the revenue allocated to each unit of accounting as we deliver the related goods or services. If the Company determines that certain deliverables should be treated as a single unit of accounting, then the revenue is recognized using either a proportional performance or straight-line method, depending on whether the Company can reasonably estimate the level of effort required to complete its performance obligations under an arrangement and whether such performance obligations are provided on a best-efforts basis. As the Company cannot reasonably estimate its performance obligations related to its collaborators, the Company recognizes revenue on a straight-line basis over the period it expects to complete its performance obligations.

The terms of the Company s agreements may provide for milestone payments upon achievement of certain defined events. The Company applies ASU No. 2010-17, *Revenue Recognition Milestone Method* (ASU 2010-17 or Milestone Method). Under the Milestone Method, the Company recognizes consideration that is contingent upon the achievement of a milestone in its entirety as revenue in the period in which the milestone is achieved only if the milestone is substantive in its entirety. A milestone is considered substantive when it meets all of the following criteria:

(1) The consideration is commensurate with either the entity s performance to achieve the milestone or the enhancement of the value of the delivered item or items as a result of a specific outcome resulting from the entity s performance to achieve the milestone;

(2) The consideration relates solely to past performance; and

(3) The consideration is reasonable relative to all of the deliverables and payment terms with the arrangement.

In the event that a milestone is not considered substantive, the Company recognizes the milestone consideration as revenue using the same method applied to upfront payments.

Research and development services are a deliverable satisfied by the Company in accordance with the terms of the collaboration agreements and the Company considers these services to be inseparable from the license to the core technology; thus, reimbursements of services performed are recognized as revenue. Further, because reimbursement (i) is contingent upon performance of the services by the Company, (ii) does not include a profit component, and (iii) does not relate to any future deliverable, the revenue is recognized during the period in which the related

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services are performed and collection of such amounts is reasonable assured. Payments received from manufacturing services will be recognized when the earnings process related to the manufactured materials has been completed. Royalties to be received under the agreements will be recognized as earned.

The Company also generates revenue from other licenses of certain technologies and rental and other income from sublease agreements. License revenue is recognized on a straight-line basis over the term of the license agreement. Deferred revenue is recorded on the consolidated balance sheet when cash is received prior to the period in which the revenue is earned. Sublease and laboratory services revenues are recognized in the period in which they are earned.

Research and Development

The Company considers that regulatory and other uncertainties inherent in the research and development of new products preclude it from capitalizing such costs. Research and development expenses include salaries and related costs of research and development personnel, and the costs of consultants, facilities, materials and supplies associated with research and development projects as well as various laboratory studies. Indirect research and development costs include depreciation, amortization and other indirect overhead expenses.

The Company has research and development arrangements with third parties that include upfront and milestone payments. At December 31, 2012 and 2011, the Company had research and development commitments with third parties totaling $3,164 and $6,220, respectively, of which $1,431 and $1,665, respectively, had not yet been incurred. The commitments are generally cancellable by the Company at any time upon written notice.

Cash and Cash Equivalents

All highly liquid investments with an original maturity of three months or less at the date of purchase are considered to be cash equivalents. Cash balances at a limited number of banks may periodically exceed insurable amounts. The Company believes that it mitigates its risk by investing in or through major financial institutions. Recoverability of investments is dependent upon the performance of the issuer. At December 31, 2012 and 2011, the Company had cash equivalent investments in highly liquid money market accounts at major financial institutions of $9,384 and $18,833, respectively.

Short-term Investments

Short-term investments include certificates of deposit with original maturities between three months and one year. The carrying amount of short-term investments approximates fair value due to the short maturities of these instruments, and there are no unrealized gains or losses associated with these instruments. Certificates of deposit classified as short-term investments totaled $260 and $258 at December 31, 2012 and 2011, respectively.

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Equity Securities

The Company holds equity securities received and/or purchased from certain collaborative partners. Other than the investment in AquaBounty which was accounted for using the equity method and discussed below, the Company elected the fair value option to account for its equity securities held in these partners, including Ziopharm Oncology, Inc. (Ziopharm) which is an equity method investment. These equity securities are recorded at fair value at each reporting date. Unrealized gains and losses resulting from fair value adjustments are reported in the consolidated statement of operations. These equity securities are classified as noncurrent in the consolidated balance sheet as the Company does not currently intend to sell these equity securities within one year. The Company has not sold any of these equity securities to date.

The Company records the fair value of securities received on the date the collaboration is consummated or the milestone is achieved using the closing, quoted price of the collaborator s security on that date, assuming the transfer of consideration is considered perfunctory. If the transfer of the consideration is not considered perfunctory, the Company considers the specific facts and circumstances to determine the appropriate date on which to evaluate fair value. The Company also evaluates whether any discounts for trading restrictions or other basis for lack of marketability should be applied to the fair value of the securities at inception of the collaboration. In the event the Company concludes that a discount should be applied, the fair value of the securities is adjusted at inception of the collaboration and re-evaluated at each reporting period thereafter.

Fair Value of Financial Instruments

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset and liability. As a basis for considering such assumptions, the Company uses a three-tier fair value hierarchy that prioritizes the inputs used in its fair value measurements. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy are as follows:

Level 1 Quoted prices in active markets for identical assets and liabilities;

Level 2 Other than quoted prices included in Level 1 inputs that are observable for the asset or liability, either directly or indirectly; and

Level 3 Unobservable inputs for the asset or liability used to measure fair value to the extent that observable inputs are not available.

As discussed in Equity Securities above, the Company elected the fair value option for the equity securities held in certain collaborative partners.

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Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of cash and cash equivalents and short-term investments.

Equity Method Investments

The Company accounts for its investment in AquaBounty Technologies, Inc. (AquaBounty), a biotechnology company focused on improving productivity in commercial aquaculture, using the equity method of accounting as the Company has the ability to exercise significant influence over, but not control, the operating activities of AquaBounty. Under the equity method of accounting, the Company includes its pro-rata share of AquaBounty s operating results, adjusted for accretion of basis difference, on a separate line in the consolidated statement of operations called Equity in net loss of affiliate. On the consolidated balance sheet, the Company presents its investment in AquaBounty as a separate non-current asset called Investment in affiliate. The excess cost over the Company s pro-rata share of AquaBounty s net assets is identifiable intangible assets and equity-method goodwill. This equity-method goodwill is not amortized; however, the investment in AquaBounty is analyzed for impairment on a periodic basis or if an event occurs or circumstances change that indicate the carrying amount may be impaired.

The Company determined that it has significant influence over one of its collaborative partners, Ziopharm, a publicly traded small molecule late-stage oncology drug development company, as of December 31, 2012 and 2011, based on its ownership interest, representation on Ziopharm s board of directors, as well as other qualitative factors. The Company accounts for this investment using the fair value option. The fair value of the Company s equity securities of Ziopharm is $56,298 and $35,162 as of December 31, 2012 and 2011, respectively, and is included as equity securities in the respective consolidated balance sheets. The Company s ownership percentage of Ziopharm is 16.3% and 11.5% at December 31, 2012 and 2011, respectively. Unrealized depreciation in the fair value of the Company s equity securities held in Ziopharm is $7,194 and $4,924 for the years ended December 31, 2012 and 2011, respectively.

Variable Interest Entities

The Company identifies entities that either (1) do not have sufficient equity investment at risk to permit the entity to finance its activities without additional subordinated financial support or (2) in which the equity investors lack an essential characteristic of a controlling financial interest as variable interest entities (VIE or VIEs). The Company performs an initial and on-going evaluation of the entities with which the Company has variable interests to determine if any of these entities are a VIE. If an entity is identified as a VIE, the Company performs an assessment to determine whether the Company has both (1) the power to direct activities that most significantly impact the VIE s economic performance and (2) have the obligation to absorb losses from or the right to receive benefits of the VIE that could potentially be significant to the VIE. If the Company has both these criterion, the Company is identified as the primary beneficiary of

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the VIE. As of December 31, 2011, the Company did not identify any VIEs. As of December 31, 2012, the Company s investment in affiliate, AquaBounty, is identified as a VIE. The Company is not the primary beneficiary for this entity as the Company does not have the power to direct the activities that most significantly impact the economic performance of the VIE. As of December 31, 2012, the total carrying value of the Company s investment in the VIE was $5,726, which is the investment in AquaBounty. The Company s maximum exposure to loss related to this VIE as of December 31, 2012 was limited to the carrying value of the investment in affiliate.

Property, Plant and Equipment

Property, plant and equipment are stated at cost, less accumulated depreciation and amortization. Major additions or betterments are charged to the property accounts while repairs and maintenance are generally expensed as incurred. Depreciation and amortization is calculated on the straight-line method over the estimated useful lives of the assets. The estimated useful lives of these assets are as follows:

	Years
Furniture and fixtures	7
Lab equipment	2 7
Computer hardware	5 7
Software	3 5

Leasehold improvements are amortized over the shorter of the useful life of the asset or the applicable lease term, generally one to four years.

Intangible Assets

Intangible assets subject to amortization consist of patents and related technologies acquired as a result of the Company s mergers and acquisitions (Note 3) and a favorable lease asset acquired upon the assumption of a lease agreement. These intangible assets subject to amortization were recorded at fair value at the date of acquisition and are stated net of accumulated amortization.

The Company applies the provisions of ASC Topic 350, *Intangibles, Goodwill and Other*, which requires the amortization of long-lived intangible assets to reflect the pattern in which the economic benefits of the intangible asset are expected to be realized. The intangible assets are amortized over their remaining estimated useful lives, ranging from seven to fourteen years for the patents and related technologies, and through the end of the original lease term, February 1, 2013, for the favorable lease asset.

Impairment of Long-Lived Assets

Long-lived assets to be held and used, including property, plant and equipment and intangible assets subject to amortization, are reviewed for impairment whenever events or changes in

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circumstances indicate that the carrying amount of the assets may not be recoverable. Conditions that would necessitate an impairment assessment include a significant decline in the observable market value of an asset, a significant change in the extent or manner in which an asset is used, or a significant adverse change that would indicate that the carrying amount of an asset or group of assets is not recoverable.

Income Taxes

Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to both differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases as well as operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date of the change. Valuation allowances are established when necessary to reduce deferred tax assets to the amount expected to be realized.

The Company identifies any uncertain income tax positions and recognizes the effect of income tax positions only if those positions are more likely than not of being sustained. Recognized income tax positions are measured at the largest amount that is greater than 50% likely of being realized. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs. The Company records interest, if any, related to unrecognized tax benefits as a component of interest expense. Penalties, if any, are recorded in general and administrative expenses.

Comprehensive Loss

For all periods presented, the comprehensive loss was equal to the net loss; therefore, a separate statement of comprehensive loss is not included in the accompanying consolidated financial statements.

Net Loss per Share and Unaudited Pro Forma Net Loss per Share

Basic net loss per share is calculated by dividing net loss attributable to common shareholders by the weighted average shares outstanding during the period, without consideration of common stock equivalents. Diluted net loss per share is calculated by adjusting weighted average shares outstanding for the dilutive effect of common stock equivalents outstanding for the period, determined using the treasury-stock method. For purposes of the diluted net loss per share calculation, preferred stock, stock options and warrants are considered to be common stock equivalents but are excluded from the calculation of diluted net loss per share because their effect would be anti-dilutive and, therefore, basic and diluted net loss per share were the same for all periods presented.

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The calculations for the unaudited pro forma basic and diluted net loss per share assume the conversion of all outstanding shares of redeemable convertible preferred stock, plus the cumulative dividends payable to the convertible preferred shareholders, into shares of common stock upon the closing of a qualified initial public offering, as if the conversions had occurred at the beginning of the period or issuance date, if later. The unaudited pro forma net loss used in the calculations of unaudited pro forma basic and diluted net loss per share has been adjusted to remove the cumulative preferred stock dividends.

Segment Information

The Company has determined that it operates in one segment. The Company uses synthetic biology for the creation of distinct products for collaboration with partners. All of the Company s revenues are derived in the United States of America. As of December 31, 2012 and 2011, all of the Company s assets are located in the United States of America.

Recently Issued Accounting Pronouncements

In May 2011, the FASB issued ASU No. 2011-04, *Fair Value Measurement (Topic 820): Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and IFRSs*. The new standards do not extend the use of fair value but, rather, provide guidance about how fair value should be applied where it already is required or permitted under International Financial Reporting Standards (IFRS) or U.S. GAAP. For U.S. GAAP, most of the changes are clarifications of existing guidance or wording changes to align with IFRS. The Company adopted this amendment on January 1, 2012. The adoption of this amendment did not have a material impact on the Company s consolidated financial statements.

In June 2011, the FASB issued ASU No. 2011-05, *Comprehensive Income (Topic 220): Presentation of Comprehensive Income* (ASU 2011-05). Under this ASU, an entity will have the option to present the components of net income and comprehensive income in either one or two consecutive financial statements. The ASU eliminates the option in U.S. GAAP to present other comprehensive income in the statement of changes in equity. An entity should apply the ASU retrospectively. In December 2011, the FASB decided to defer the effective date of those changes in ASU 2011-05 that relate only to the presentation of reclassification adjustments in the statement of income by issuing ASU 2011-12, *Comprehensive Income (Topic 220): Deferral of the Effective Date for the Amendments to the Presentation of Reclassifications of Items Out of Accumulated Other Comprehensive Income in ASU 2011-05.* The Company has implemented the provisions of ASU 2011-05 as of January 1, 2012. The adoption of this amendment did not have a material impact on the Company s consolidated financial statements.

In February 2013, the FASB issued ASU No. 2013-02, *Reporting of Amounts Reclassified Out of Accumulated Other Comprehensive Income* (ASU 2013-02). ASU 2013-02 requires that companies present either in a single note or parenthetically on the face of the financial statements, the effect of significant amounts reclassified from each component of accumulated other comprehensive

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income based on its source and the income statement line items affected by the reclassification. If a component is not required to be reclassified to net income in its entirety, companies would instead cross reference to the related footnote for additional information. ASU 2013-02 is effective for interim and annual reporting periods beginning after December 15, 2012. The Company will implement the provisions of ASU 2013-02 as of January 1, 2013. The adoption of this amendment did not have a material impact on the Company s consolidated financial statements.

In December 2011, the FASB issued ASU No. 2011-11, *Balance Sheet (Topic 210): Disclosures about Offsetting Assets and Liabilities* (ASU 2011-11). ASU 2011-11 requires an entity to disclose information about offsetting and related arrangements to enable users of financial statements to understand the effect of those arrangements on its financial position, and to allow investors to better compare financial statements prepared under U.S. GAAP with financial statements prepared under IFRS. The new standards are effective for annual periods beginning January 1, 2013 and interim periods within those annual periods. Retrospective application is required. The Company will implement the provisions of ASU 2011-11 as of January 1, 2013. The adoption of this amendment did not have a material impact on the Company s consolidated financial statements.

Reclassifications

Certain reclassifications have been made to the prior year consolidated financial statements to conform to the current year presentation.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates.

3. Mergers and Acquisitions

Agarigen, Inc.

On January 26, 2011, the Company acquired 100% of the outstanding common stock of Agarigen, Inc. (Agarigen), a North Carolina-based company which developed a novel mushroom-based platform for the production of proteins, by merging Agarigen into a newly formed wholly-owned subsidiary. The acquisition allows the Company to combine Agarigen s technology with the Company s technology and capability in a specific agricultural sector. As consideration for the acquisition, the Company paid $1,178 cash and issued 386,142 shares of its common stock at closing. The Company also issued 165,255 options to purchase the Company s common stock at strike prices ranging from $0.38 to $1.98 and issued warrants to purchase up to 511,098 shares of

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the Company s common stock at a price per share of $0.79. The results of Agarigen s operations subsequent to January 26, 2011 have been included in the consolidated financial statements.

The fair value of the total consideration transferred was $3,773. The acquisition date fair value of each class of consideration transferred was as follows:

Cash	$ 1,178
Common shares	1,014
Stock options and warrants	1,581
	$ 3,773

The fair value of the shares of the Company s common stock issued was based upon the value of the Company s common stock at the acquisition date determined under an option-pricing method as prescribed by the American Institute of Certified Public Accountants Practice Aid, *Valuation of Privately-Held Company Equity Securities Issued as Compensation* (AICPA Practice Aid). The option-pricing method treats common stock and preferred stock as call options on the enterprise s equity value, with exercise prices based on the liquidation preferences of the preferred stock. The fair value of stock options and warrants issued were determined in accordance with ASC Topic 718, *Compensation Stock Compensation*. The estimated fair value of assets acquired and liabilities assumed at the acquisition date is as follows:

Cash	$ 334
Trade receivables	53
Other receivables	436
Prepaid expenses and other	11
Property and equipment	30
Intangible assets	3,122
Other assets	3
Total assets acquired	3,989
Accounts payable	60
Accrued compensation and benefits	65
Other accrued liabilities	91
Total liabilities assumed	216
Net assets acquired	$ 3,773

The fair value of acquired intangible assets was determined using the relief-from-royalty method, a variation of the income approach that estimates the benefit of owning the intangible assets rather than paying royalties for the right to use comparable assets. The acquired intangible assets are being amortized over the expected useful life of nine years and consist of acquired patents and related technology.

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The Company paid $110 of acquisition related costs, which are included in general and administrative expenses in the accompanying consolidated statement of operations for the year ended December 31, 2011.

The warrants were fully vested upon issuance, have an exercise price of $0.79 per share and expire in December 2017. The Company considered the applicable provisions of ASC No. 480, *Distinguishing Liabilities and Equity* and ASC No. 815, *Derivatives and Hedging* and determined the warrants should be classified as shareholders equity.

GT Life Sciences, Inc.

On October 5, 2011, the Company acquired 100% of the outstanding common stock of GT Life Sciences, Inc. (GT Life), a California company, by merging a newly formed wholly-owned subsidiary with and into GT Life. The acquisition allows the Company to combine GT Life s technology with the Company s technology and capability for the development and deployment of high value production cell lines. The Company paid $14,250 cash at closing, which was the acquisition date fair value of the total consideration transferred. The results of GT Life s operations subsequent to October 5, 2011 have been included in the consolidated financial statements.

The estimated fair value of assets acquired and liabilities assumed at the acquisition date is as follows:

Cash	$ 21
Other receivables	161
Related party receivable	33
Prepaid expenses and other	1
Property and equipment	32
Intangible assets	14,094
Total assets acquired	14,342
Accounts payable	55
Accrued compensation and benefits	29
Other accrued liabilities	8
Total liabilities assumed	92
Net assets acquired	$ 14,250

The fair value of acquired intangible assets was determined using the multi-period excess earnings method, a variation of the income approach. The multi-period excess earnings method estimates the value of an intangible asset equal to the present value of the incremental after-tax cash flows attributable to the intangible asset. The acquired intangible assets are being amortized over the expected useful life of thirteen years and consist of acquired patents and related technology.

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The Company paid $276 of acquisition related costs, which are included in general and administrative expenses in the accompanying consolidated statement of operations for the year ended December 31, 2011.

Immunologix, Inc.

On October 21, 2011, the Company acquired 100% of the outstanding preferred and common stock of Immunologix, Inc. (Immunologix), a South Carolina-based company specializing in therapeutic antibodies, by merging a newly formed wholly-owned subsidiary with and into Immunologix. The acquisition allows the Company to combine Immunologix s antibody technology with the Company s existing technology and capability. The Company paid $12,758 cash and issued 153,365 shares of its common stock at closing. The results of Immunologix s operations from October 21, 2011 have been included in the consolidated financial statements.

The transaction also includes a contingent consideration arrangement which may require the Company to pay the former shareholders of Immunologix 50% of revenue generated from Immunologix s antibody technology in a specific target defined in the agreement up to a maximum of $2,000. The potential undiscounted amount of all future payments that could be required under the contingent consideration arrangement is between $0 and $2,000. The fair value of the contingent consideration arrangement is estimated at $0 based on the risk-adjusted valuation performed by the Company.

The fair value of the total consideration transferred was $13,850. The acquisition date fair value of each class of consideration transferred was as follows:

Cash	$ 12,758
Common shares	1,092
	$ 13,850

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The fair value of the shares of the Company s common stock issued was based upon the value of the Company s common stock at acquisition date determined by using a probability-weighted expected return method (PWERM) as prescribed by the AICPA Practice Aid. The PWERM estimates the value of an enterprise s common stock based upon an analysis of current and future values for the enterprise assuming possible liquidity events. The PWERM considers the various terms of the Company s redeemable convertible preferred stock, including the rights for each share class, at the date in the future upon which these rights will either be executed or abandoned. The estimated fair value of assets acquired and liabilities assumed at the acquisition date is as follows:

Cash	$ 19
Other receivables	1
Prepaid expenses and other	6
Property and equipment	141
Intangible assets	13,921
Total assets acquired	14,088
Accounts payable	87
Accrued compensation and benefits	76
Long-term debt	75
Total liabilities assumed	238
Net assets acquired	$ 13,850

The fair value of acquired intangible assets was determined using the multi-period excess earnings method, a variation of the income approach. The multi-period excess earnings method estimates the value of an intangible asset equal to the present value of the incremental after-tax cash flows attributable to the intangible asset. The acquired intangible assets are being amortized over the expected useful life of thirteen years and consist of acquired patents and related technology.

The Company paid $293 of acquisition related costs, which are included in general and administrative expenses in the accompanying consolidated statement of operations for the year ended December 31, 2011.

Other Acquisition

In April 2011, the Company acquired certain tangible and intangible assets that were considered a business in accordance with ASC 805, *Business Combinations (ASC 805)*, from a private California company for consideration of $1,400, including $850 cash and 92,984 shares of the Company s common stock valued at $550. The acquired intangible assets, which consist of acquired patents and related technology, are being amortized over the expected useful life of thirteen years.

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Unaudited Condensed Pro Forma Financial Information

The results of operations of the mergers and acquisitions discussed above are included in the consolidated statements of operations beginning on their respective acquisition dates. The following unaudited condensed pro forma financial information for the year ended December 31, 2011 is presented as if the acquisitions had been consummated on January 1, 2011:

	2011
(Unaudited)	**Pro forma**
Revenues	$ 9,146
Net loss	(89,116)
Accretion of dividends on redeemable convertible preferred stock, not declared	(13,868)
Net loss attributable to common shareholders	$ (102,984)
Net loss attributable to common shareholders per share, basic and diluted	$ (19.01)

4. Collaboration Revenue

Ziopharm Oncology, Inc. ECC

Effective January 6, 2011, the Company entered into a worldwide ECC with Ziopharm. Under the ECC, Ziopharm received a license to the Company s technology platform within the field of oncology as defined more specifically in the agreement. Upon execution of the ECC, the Company received 3,636,926 shares of Ziopharm s common stock valued at $17,457 as upfront consideration. The Company is entitled to additional shares of common stock representing the lesser of (i) the original shares received or (ii) the number of shares representing 7.495% of Ziopharm s outstanding shares at the date of the dosing of the first patient in a Phase II clinical trial of a product candidate created, produced or developed by Ziopharm using the Company s technology (Ziopharm Milestone). The Company receives reimbursement payments for research and development services provided and manufacturing services for Company materials provided to Ziopharm during the ECC. Subject to certain expense allocations, Ziopharm will pay the Company 50% of the quarterly net profits derived from the sale of products developed from the ECC. Ziopharm is responsible for conducting preclinical and clinical development of product candidates, as well as for other aspects of commercialization or manufacturing of product candidates. The term of the ECC commenced on January 6, 2011 and continues until terminated pursuant to the ECC agreement. The ECC may be terminated by either party in the event of certain material breaches defined in the agreement and may be terminated voluntarily by Ziopharm upon 90 days written notice to the Company provided that no voluntary termination by Ziopharm can be made during the first two years of the ECC. See Note 13 for additional transactions with Ziopharm.

The Company identified the deliverables at the inception of the ECC which include the license to the Company s technology platform, two clinical-stage product candidates, services to transition

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the two clinical-stage product candidates, participation on the joint steering committee (JSC), the research and development services, and any manufacturing services to be provided. The Company grouped the deliverables into three units of accounting based on the nature of the deliverables and the separation criteria: (i) the two clinical-stage product candidates and related services to transition these product candidates to Ziopharm (Ziopharm Unit of Accounting 1), which had standalone value to Ziopharm at inception of the ECC; (ii) the license to the Company s technology platform, the Company s participation on the JSC and research and development services to be provided (Ziopharm Unit of Accounting 2), as these deliverables could not be separated; and (iii) manufacturing services to be provided for any Company materials in an approved product from the ECC (Ziopharm Unit of Accounting 3), which have standalone value and are contingent due to uncertainties on whether an approved product would be developed and require manufacturing by the Company. As VSOE and third party evidence of selling price was not available or practical, the BESP for each unit of accounting was determined using a historical cost approach due to the early stage of development of the Company s technology. In establishing BESP for Ziopharm Unit of Accounting 1, the Company used the accumulated costs incurred as of the ECC by the Company on the two clinical programs that were transferred to Ziopharm to approximate the cost to recreate the deliverables included in this unit of accounting. In establishing BESP for Ziopharm Unit of Accounting 2, the Company used the accumulated costs incurred as of the ECC by the Company on its technology platform licensed to Ziopharm to approximate the cost to recreate the deliverables included in this unit of accounting. The upfront consideration was allocated to Ziopharm Unit of Accounting 1 and Ziopharm Unit of Accounting 2 based on the relative selling price method. Ziopharm Unit of Accounting 3 was determined to be a contingent deliverable at the inception of the ECC due to the uncertainties surrounding whether an approved product would be developed and require manufacturing by the Company. As a result of the relative selling price method, $1,115 of the upfront consideration was allocated to Ziopharm Unit of Accounting 1, all of which was recognized as collaboration revenue for the year ended December 31, 2011 since the Company had completed its obligations to deliver this unit of accounting. The remaining $16,342 of upfront consideration was allocated to Ziopharm Unit of Accounting 2 and will be recognized over the expected life of the Company s technology platform using a straight-line approach. The Company recognized $1,257 of this allocated amount as collaboration revenue in each of the years ended December 31, 2012 and December 31, 2011. The remaining balance of $13,828 of upfront consideration allocated to Ziopharm Unit of Accounting 2 is recorded as deferred revenue at December 31, 2012, of which $1,257 is expected to be recognized in 2013.

The Company recognizes the reimbursement payments received for research and development services provided pursuant to the agreement in the period when the services are performed and collection is reasonably assured. On March 21, 2012, the Company received $10,000 from Ziopharm as a prepayment of research and development services to be provided in conjunction with the ECC. The Company recorded this amount as deferred revenue and recognizes collaboration revenue as services are performed. The Company recognized $6,333 of collaboration revenue for research and development services performed in the year ended

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December 31, 2012, of which $5,138 was applied against the $10,000 prepayment received. The balance of $4,862 is included in deferred revenue on the December 31, 2012 consolidated balance sheet. Any remaining balance of this prepayment is refundable to Ziopharm in the event the ECC is terminated. The Company recognized $2,724 of collaboration revenue for research and development services performed in the year ended December 31, 2011, of which $215 is included in related party receivables on the December 31, 2011 consolidated balance sheet.

At inception of the agreement, the Company determined that the Ziopharm Milestone is not substantive and cannot be recognized when earned in accordance with ASU 2010-17 as the Milestone Method substantive criteria discussed in Note 2 were not met. On October 24, 2012, the Ziopharm Milestone was achieved and the Company received 3,636,926 shares of Ziopharm s common stock valued at $18,330 as milestone consideration, which is the sole milestone under this ECC. Since the Ziopharm Milestone was not substantive, the Company allocated the milestone consideration to Ziopharm Unit of Accounting 1 and Ziopharm Unit of Accounting 2 using the same relative selling price allocation as the upfront consideration. As a result, $1,171 of the milestone consideration was allocated to Ziopharm Unit of Accounting 1 and immediately recognized as collaboration revenue for the year ended December 31, 2012 and the remaining $17,159 was allocated to Ziopharm Unit of Accounting 2. The Company recognized $2,420 of the milestone consideration allocated to Ziopharm Unit of Accounting 2 as collaboration revenue at the date the Ziopharm Milestone was achieved, which represented the amount that would have been recognized from inception of the ECC through the milestone achievement date had the payment been received upfront. The remaining $14,739 was recorded as deferred revenue and will be recognized over the expected life of the Company s technology platform using a straight-line approach. The Company recognized $220 of this deferred milestone consideration for the year ended December 31, 2012 and the remaining $14,519 is included as deferred revenue on the December 31, 2012 consolidated balance sheet of which $1,320 is expected to be recognized in 2013.

Royalties related to product sales will be recognized when earned as the payments relate directly to products that have been fully developed and for which the Company has satisfied all of its obligations.

Synthetic Biologics, Inc. ECCs

Effective November 18, 2011, the Company entered into a worldwide ECC with Synthetic Biologics, Inc. (Synthetic Biologics), a publicly traded company focused on the development of innovative disease-modifying medicines for serious illnesses. Under the ECC, at the transaction effective date, Synthetic Biologics received a license to the Company s technology platform within a designated field (Field One). Upon execution of the ECC, the Company received 3,123,558 shares of Synthetic Biologics common stock valued at $1,687 as upfront consideration. The Company is entitled to additional shares of common stock representing the lesser of (i) the original shares received or (ii) the number of shares representing 9.995% of Synthetic Biologics

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outstanding shares at the date of the dosing of the first patient in a Phase II clinical trial of a product candidate created, produced or developed by Synthetic Biologics using the Company s technology (Synthetic Biologics Field One Milestone). The Company will receive reimbursement payments for research and development services provided pursuant to the agreement and manufacturing services for Company materials provided to Synthetic Biologics during the ECC. Subject to certain expense allocations, Synthetic Biologics will pay the Company 50% of the quarterly net profits derived from the sale of products developed from the ECC. Synthetic Biologics is responsible for conducting preclinical and clinical development of product candidates, as well as for other aspects of commercialization or manufacturing of the product candidates. The term of the ECC commenced on November 18, 2011 and continues until terminated pursuant to the ECC agreement. The ECC may be terminated by either party in the event of certain material breaches defined in the agreement and may be terminated voluntarily by Synthetic Biologics upon 90 days written notice to the Company provided that no voluntary termination by Synthetic Biologics can be made during the first 18 months of the ECC.

The Company identified the deliverables at the inception of the ECC which include the license to the Company s technology platform, participation on the JSC, the research and development services and any manufacturing services to be provided. The Company grouped the deliverables into two units of accounting based on the nature of the deliverables and the separation criteria: (i) the license to the Company s technology platform, the Company s participation on the JSC and research and development services to be provided (Synthetic Biologics Field One Unit of Accounting 1), as these deliverables could not be separated, and (ii) manufacturing services to be provided for any Company materials in an approved product from the ECC (Synthetic Biologics Field One Unit of Accounting 2), which have standalone value and are contingent due to uncertainties on whether an approved product would be developed and require manufacturing by the Company. As VSOE and third party evidence of selling price was not available or practical, the BESP for each unit of accounting was determined using a historical cost approach due to the early stage of development of the Company s technology. In establishing BESP for Synthetic Biologics Field One Unit of Accounting 1, the Company used the accumulated costs incurred as of the ECC by the Company on its technology platform licensed to Synthetic Biologics to approximate the cost to recreate the deliverables included in this unit of accounting. All upfront consideration was allocated to Synthetic Biologics Field One Unit of Accounting 1. Synthetic Biologics Field One Unit of Accounting 2 was determined to be a contingent deliverable at the inception of the ECC due to the uncertainties surrounding whether an approved product would be developed and require manufacturing by the Company. The $1,687 of upfront consideration was allocated to Synthetic Biologics Field One Unit of Accounting 1 and will be recognized over the expected life of the Company s technology platform using a straight-line approach. The Company recognized $130 and $22 of collaboration revenue for the years ended December 31, 2012 and December 31, 2011, respectively. The remaining $1,535 is recorded as deferred revenue at December 31, 2012, of which $130 is expected to be recognized in 2013.

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At inception of the agreement, the Company determined that the Synthetic Biologics Milestone is not substantive and cannot be recognized when earned in accordance with ASU 2010-17 as the Milestone Method substantive criteria discussed in Note 2 were not met. Royalties related to product sales will be recognized when earned as the payments relate directly to products that have been fully developed and for which the Company has satisfied all of its obligations.

On August 6, 2012, the Company entered into its second worldwide ECC with Synthetic Biologics. Under this ECC, at the transaction effective date, Synthetic Biologics received a license to the Company s technology platform within a second designated field (Field Two). Upon Synthetic Biologics shareholders approval on October 5, 2012, the Company received a technology access fee of 3,552,210 shares of Synthetic Biologics common stock valued at $7,815 as upfront consideration. Upon the filing by Synthetic Biologics of an investigational new drug application with the U.S. Food and Drug Administration, or FDA, the Company will receive cash or common stock at the option of Synthetic Biologics valued at $2,000. Upon the first to occur of either the first commercial sale of a product developed under the ECC or the granting of regulatory approval of a product developed under the ECC, the Company will receive cash or common stock at the option of Synthetic Biologics valued at $3,000. The ECC initially targets three infectious diseases and Synthetic Biologics may elect to target up to five more infectious diseases by paying the Company a field expansion fee of $2,000 in either cash or common stock for each additional infectious disease selected. The regulatory milestones and field expansion fee(s) are referred to as the Synthetic Biologics Field Two Milestones. The Company receives reimbursement payments for research and development services provided pursuant to the agreement and manufacturing services for preclinical Company materials provided to Synthetic Biologics during the ECC. The Company has the option to propose, and Synthetic Biologics can select, the Company to be the bulk manufacturer of products developed from the ECC. On a quarterly basis, Synthetic Biologics will pay the Company royalties with percentages ranging from upper-single digits to lower double digits of net sales of products developed from the ECC. Synthetic Biologics is responsible for conducting preclinical and clinical development of product candidates, as well as for other aspects of commercialization and manufacturing of the product candidates. The term of the ECC commenced on August 6, 2012 and continues until terminated pursuant to the ECC agreement. The ECC may be terminated by either party in the event of certain material breaches defined in the agreement and may be terminated voluntarily by Synthetic Biologics upon 90 days written notice to the Company provided that no voluntary termination by Synthetic Biologics can be made during the first 18 months of the ECC.

The Company identified the deliverables at the inception of the ECC which include the license to the Company s technology platform, participation on the JSC, the research and development services and the potential manufacturing services of a product(s) to be provided if the Company is elected as the manufacturer. The Company grouped the deliverables into two units of accounting based on the nature of the deliverables and the separation criteria: (i) the license to the Company s technology platform, the Company s participation on the JSC and research and development services to be provided (Synthetic Biologics Field Two Unit of Accounting 1), as

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these deliverables could not be separated, and (ii) the potential manufacturing services to be provided for a product(s) from the ECC (Synthetic Biologics Field Two Unit of Accounting 2), which have standalone value and are contingent due to uncertainties on whether an approved product would be developed and require manufacturing by the Company. As VSOE and third party evidence of selling price was not available or practical, the BESP for each unit of accounting was determined using a historical cost approach due to the early stage of development of the Company s technology. In establishing BESP for Synthetic Biologics Field Two Unit of Accounting 1, the Company used the accumulated costs incurred as of the ECC by the Company on its technology platform licensed to Synthetic Biologics to approximate the cost to recreate the deliverables included in this unit of accounting. All up-front consideration was allocated to Synthetic Biologics Field Two Unit of Accounting 1. Synthetic Biologics Field Two Unit of Accounting 2 was determined to be a contingent deliverable at the inception of the ECC due to the uncertainties surrounding whether any approved products would be developed and whether the Company is elected by Synthetic Biologics to be the manufacturer of any approved products. The $7,815 of upfront consideration was allocated to Synthetic Biologics Field Two Unit of Accounting 1 and will be recognized over the expected life of the Company s technology platform using a straight-line approach. The Company recognized $163 of collaboration revenue for the year ended December 31, 2012. The remaining $7,652 is recorded as deferred revenue at December 31, 2012, of which $651 is expected to be recognized in 2013.

At inception of the agreement, the Company determined that the Synthetic Biologics Field Two Milestones are not substantive and cannot be recognized when earned in accordance with ASU 2010-17 as the Milestone Method substantive criteria discussed in Note 2 were not met. Royalties related to product net sales will be recognized when earned as the Company has determined that these sales based milestones are not considered a milestone payment under ASU 2010-17.

The Company recognizes the reimbursement payments received for research services in the period when the services are performed and collection is reasonably assured. The Company recognized $327 of collaboration revenue for research and development services performed in the year ended December 31, 2012 for both ECCs with Synthetic Biologics. On December 17, 2012, the Company received $2,500 from Synthetic Biologics as a prepayment of research and development services to be provided in conjunction with the two ECCs. The Company recorded this amount as deferred revenue and recognizes collaboration revenue as services are performed. Of the $327 of collaboration revenue recognized in the year ended December 31, 2012, $133 was applied against the $2,500 prepayment received. The balance of $2,367 is included in deferred revenue on the December 31, 2012 consolidated balance sheet. Any remaining balance of this prepayment is refundable to Synthetic Biologics in the event both ECCs are terminated.

See Notes 13 and 16 for further discussion related to the Synthetic Biologics ECCs.

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Elanco ECC

Effective November 28, 2011, the Company entered into a worldwide ECC with Elanco, the animal health division of Eli Lilly and Company (Elanco). The Company received cash upfront and is entitled to additional amounts up to an aggregate of $2,250 per product candidate based on the occurrence of separate performance, regulatory and sales-based milestones. The Company receives reimbursement payments for research services provided to Elanco during the ECC up to a certain maximum per calendar year. Elanco will pay the Company royalties with percentages ranging from mid-to-upper single digits to lower double digits based on net sales of products developed from the ECC. The term of the ECC commenced on November 28, 2011 and continues until terminated pursuant to the agreement. The ECC may be terminated by either party in the event of certain material breaches and may be voluntarily terminated in its entirety or on target-by-target basis upon 90 days written notice to the Company or 180 days written notice if the Company is performing research services on a product target.

The Company identified the deliverables at the inception of the ECC which are the license to the Company s technology platform, participation on the ECC s JSC, the research services and potential manufacturing services. The Company grouped the deliverables into two units of accounting based on the nature of the deliverables and the separation criteria: (i) the license to the Company s technology platform, the Company s participation on the JSC and research services to be provided (Elanco Unit of Accounting 1), as these deliverables could not be separated, and (ii) if approved by Elanco, manufacturing services to be provided for any Company materials in an approved product from the ECC (Elanco Unit of Accounting 2), which have standalone value and are contingent due to uncertainties on whether an approved product would be developed and require manufacturing by the Company. As VSOE and third party evidence of selling price was not available or practical, the BESP for each unit of accounting was determined using a historical cost approach due to the early stage of development of the Company s technology. In establishing BESP for Elanco Unit of Accounting 1, the Company used the accumulated costs incurred as of the ECC by the Company on its technology platform licensed to Elanco to approximate the cost to recreate the deliverables included in this unit of accounting. All the upfront consideration was allocated to Elanco Unit of Accounting 1. Elanco Unit of Accounting 2 was determined to be a contingent deliverable at the inception of the ECC due to the uncertainties surrounding whether an approved product would be developed and whether the Company would be approved by Elanco to provide such manufacturing. The upfront consideration was allocated to Elanco Unit of Accounting 1 and will be recognized over the expected life of the Company s technology platform using a straight-line approach.

The Company recognizes the reimbursement payments received for research services provided pursuant to the agreement in the period when the services are performed and collection is reasonably assured. The Company recognized $587 of collaboration revenue for research and development services performed in the year ended December 31, 2012, of which $102 is included as trade receivables on the December 31, 2012 consolidated balance sheet.

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At inception of the agreement, the Company determined that the performance milestone is substantive and can be recognized when earned in accordance with ASU 2010-17 as the milestone met all the criteria required by ASU 2010-17 to be considered substantive. The regulatory milestone is not substantive as the milestone did not meet all of the criteria required by ASU 2010-17 to be considered substantive. The sales-based milestone and royalties will be recognized when earned as the payments relate directly to products that have been fully developed and for which the Company has satisfied all of its obligations.

Oragenics, Inc. ECC

Effective June 5, 2012, the Company entered into a worldwide ECC with Oragenics, Inc. (Oragenics), a publicly traded company focused on becoming the world leader in novel antibiotics against infectious disease and probiotics for oral health for humans and pets. Under the ECC, at the transaction effective date, Oragenics received a license to the Company s technology platform within the field of lantibiotics for the treatment of infectious diseases in humans and companion animals as defined more specifically in the agreement. Upon execution of the ECC, the Company received a technology access fee of 4,392,425 shares of Oragenics common stock valued at $6,588 as upfront consideration. The Company is entitled to receive additional shares of common stock, or at Oragenics option, receive a cash payment based upon the fair market value of the shares, upon the separate achievement of certain regulatory milestones of the first product candidate developed from the ECC (Oragenics Milestones). The Oragenics Milestones include: (i) 1% of Oragenics outstanding shares as defined in the ECC agreement at the date of the filing of the first Investigative New Drug Application with the U.S. Food and Drug Administration (U.S. FDA) for a product candidate created, produced or developed using the Company s technology (Oragenics Product); (ii) 1.5% of Oragenics outstanding shares as defined in the ECC agreement at the date of the dosing of the first patient in the first Phase II clinical trial of an Oragenics Product; (iii) 2% of Oragenics outstanding shares as defined in the ECC agreement at the date of the dosing of the first patient in the first Phase III clinical trial of an Oragenics Product; (iv) 2.5% of Oragenics outstanding shares as defined in the ECC agreement at the date of the first New Drug Application or Biologics License Application with the U.S. FDA for an Oragenics Product, or alternatively the first equivalent regulatory filing with a foreign agency; and (v) 3% of Oragenics outstanding shares as defined in the ECC agreement at the date of the granting of the first regulatory approval of an Oragenics Product. The Company receives reimbursement payments for research and development services provided pursuant to the agreement during the ECC and manufacturing services for Company materials provided to Oragenics during the ECC. Oragenics will pay the Company 25% of the quarterly profits derived from the sale of products developed from the ECC.

Oragenics is responsible for funding the further development of lantibiotics toward the goal of commercialization, conducting preclinical and clinical development of product candidates, as well as for other aspects of commercialization or manufacturing of the product candidates. The term of the ECC commenced on June 5, 2012 and continues until terminated pursuant to the ECC

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agreement. The ECC may be terminated by either party in the event of certain material breaches defined in the agreement and may be terminated voluntarily by Oragenics upon 90 days written notice to the Company provided that no voluntary termination by Oragenics can be made during the first 18 months of the ECC. See Note 13 for additional arrangements with Oragenics.

The Company identified the deliverables at the inception of the ECC which include the license to the Company s technology platform, participation on the JSC, the research and development services and any manufacturing services to be provided. The Company grouped the deliverables into two units of accounting based on the nature of the deliverables and the separation criteria: (i) the license to the Company s technology platform, the Company s participation on the JSC and research and development services to be provided (Oragenics Unit of Accounting 1), as these deliverables could not be separated, and (ii) any manufacturing services to be provided for any Company materials in an approved product from the ECC (Oragenics Unit of Accounting 2), which have standalone value and are contingent due to uncertainties on whether an approved product would be developed and require manufacturing by the Company. As VSOE and third party evidence of selling price was not available or practical, the BESP for each unit of accounting was determined using a historical cost approach due to the early stage of development of the Company s technology. In establishing BESP for Oragenics Unit of Accounting 1, the Company used the accumulated costs incurred as of the ECC by the Company on its technology platform licensed to Oragenics to approximate the cost to recreate the deliverables included in this unit of accounting. All upfront consideration was allocated to Oragenics Unit of Accounting 1. Oragenics Unit of Accounting 2 was determined to be a contingent deliverable at the inception of the ECC due to the uncertainties surrounding whether an approved product would be developed and require manufacturing by the Company and whether the Company would elect to be the manufacturer. The $6,588 of upfront consideration was allocated to Oragenics Unit of Accounting 1 and will be recognized over the expected life of the Company s technology platform using a straight-line approach. The Company recognized $320 of collaboration revenue for the year ended December 31, 2012. The remaining balance of $6,268 is recorded as deferred revenue at December 31, 2012, of which $549 is expected to be recognized in 2013.

The Company recognizes the reimbursement payments received for research services in the period when the services are performed and collection is reasonably assured. The Company recognized $516 of collaboration revenue for research and development services performed in the year ended December 31, 2012, of which $270 is included as related party receivables on the December 31, 2012 consolidated balance sheet.

At inception of the agreement, the Company determined that the Oragenics Milestones are not substantive and cannot be recognized when earned in accordance with ASU 2010-17 as the Milestone Method substantive criteria discussed in Note 2 were not met. Royalties related to product sales will be recognized when earned as the payments relate directly to products that have been fully developed and for which the Company has satisfied all of its obligations.

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Fibrocell Science, Inc. ECC

Effective October 5, 2012, the Company entered into an ECC with Fibrocell Science, Inc. (Fibrocell), a publicly traded, autologous cellular therapeutic company focused on the development of innovative products for aesthetic, medical and scientific applications. Under the ECC, at the transaction effective date, Fibrocell received a license to the Company s technology platform to develop and commercialize genetically modified and non-genetically modified autologous fibroblasts and autologous dermal cells in the United States of America. Upon execution of the ECC, the Company received a technology access fee of 1,317,520 shares of Fibrocell s common stock valued at $7,576 as upfront consideration. The number of shares received reflects a 1-for-25 reverse stock split of Fibrocell s common stock effective April 30, 2013. The Company receives reimbursement payments for research and development services provided pursuant to the agreement during the ECC and manufacturing services for Company materials provided to Fibrocell during the ECC. On a quarterly basis, Fibrocell will pay the Company royalties of 7% of net sales up to $25,000 and 14% of net sales above $25,000 on each product developed from the ECC. If Fibrocell uses the Company s technology platform to improve the production of a current or new Fibrocell products not developed from the ECC, Fibrocell will pay the Company a quarterly royalty equal to 33% of the cost of goods sold savings generated by the improvement. Fibrocell is responsible for conducting preclinical and clinical development of product candidates, as well as for other aspects of commercialization and manufacturing of the product candidates. The term of the ECC commenced on October 5, 2012 and continues until terminated pursuant to the ECC agreement. The ECC may be terminated by either party in the event of certain material breaches defined in the agreement and may be terminated voluntarily by Fibrocell upon 90 days written notice to the Company.

The Company identified the deliverables at the inception of the ECC which include the license to the Company s technology platform, participation on the JSC, the research and development services and any manufacturing services to be provided. The Company grouped the deliverables into two units of accounting based on the nature of the deliverables and the separation criteria: (i) the license to the Company s technology platform, the Company s participation on the JSC and research and development services to be provided (Fibrocell Unit of Accounting 1), as these deliverables could not be separated, and (ii) any manufacturing services to be provided for any Company materials in an approved product from the ECC (Fibrocell Unit of Accounting 2), which have standalone value and are contingent due to uncertainties on whether an approved product would be developed and require manufacturing by the Company. As VSOE and third party evidence of selling price was not available or practical, the BESP for each unit of accounting was determined using a historical cost approach due to the early stage of development of the Company s technology. In establishing BESP for Fibrocell Unit of Accounting 1, the Company used the accumulated costs incurred as of the ECC by the Company on its technology platform licensed to Fibrocell to approximate the cost to recreate the deliverables included in this unit of accounting. All upfront consideration was allocated to Fibrocell Unit of Accounting 1. Fibrocell Unit of Accounting 2 was determined to be a contingent deliverable at the inception of the ECC

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due to the uncertainties surrounding whether an approved product would be developed and require manufacturing by the Company and whether the Company would elect to be the manufacturer. The $7,576 of upfront consideration was allocated to Fibrocell Unit of Accounting 1 and will be recognized over the expected life of the Company s technology platform using a straight-line approach. The Company recognized $158 of collaboration revenue for the year ended December 31, 2012. The remaining balance of $7,418 is recorded as deferred revenue at December 31, 2012, of which $631 is expected to be recognized in 2013.

The Company recognizes the reimbursement payments received for research services in the period when the services are performed and collection is reasonably assured. The Company recognized $61 of collaboration revenue for research and development services performed in the year ended December 31, 2012, of which the entire amount is included as related party receivables on the December 31, 2012 consolidated balance sheet.

Royalties related to product net sales will be recognized when earned as the payments relate directly to products that have been fully developed and for which the Company has satisfied all of its obligations.

5. Fair Value Measurements

The carrying amount of cash and cash equivalents, short-term investments, receivables, prepaid expenses and other current assets, accounts payable, accrued compensation and benefits, other accrued liabilities, and related party payables approximate fair value due to the short maturity of these instruments.

The following table presents the placement in the fair value hierarchy of financial assets that are measured at fair value on a recurring basis, including the items for which the fair value option has been elected, at December 31, 2012:

	Quoted prices in active markets (level 1)	Significant other observable inputs (level 2)	Significant unobservable inputs (level 3)	December 31, 2012
Assets				
Equity securities (Note 4)	$ 72,988	$ 10,128	$	$ 83,116
	$ 72,988	$ 10,128	$	$ 83,116

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The following table presents the placement in the fair value hierarchy of financial assets that are measured at fair value on a recurring basis, including the items for which the fair value option has been elected, at December 31, 2011:

	Quoted prices in active markets (level 1)	Significant other observable inputs (level 2)	Significant unobservable inputs (level 3)	December 31, 2011
Assets				
Equity securities (Note 4)	$ 39,097	$	$	$ 39,097
	$ 39,097	$	$	$ 39,097

There were no financial liabilities measured on a recurring basis at December 31, 2012 and 2011.

The method used to estimate the fair value of the Level 1 assets in the tables above is based on observable market data as these equity securities are publicly-traded. The method used to estimate the fair value of the Level 2 assets in the tables above is based on the quoted market price of the publicly-traded security, adjusted for a discount for lack of marketability.

There were no transfers between levels of the fair value hierarchy in the years ended December 31, 2012 and 2011.

6. Investment in AquaBounty

On November 16, 2012, the Company acquired 48,631,444 shares of AquaBounty common stock, representing 47.56% of the then outstanding shares of AquaBounty, for $6,000 through a definitive purchase agreement with an existing AquaBounty shareholder and its affiliate. The carrying amount of the investment in AquaBounty was $5,726 at December 31, 2012. Based on closing quoted market prices (Level 1), the fair value of the investment in AquaBounty was approximately $14,300 at December 31, 2012. Summarized unaudited financial information for AquaBounty as of December 31, 2012 and for the period subsequent to the Company s investment to December 31, 2012 is as follows:

	2012
Current assets	$ 514
Non-current assets	1,962
Total assets	2,476

Current liabilities	706
Non-current liabilities	2,741
Total liabilities	3,447
Net liabilities	$ (971)

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	2012
Revenues	$
Operating expenses	578
Loss from operations	(578)
Other expense	(1)
Net loss	$ (579)

On November 29, 2012, the Company entered into a promissory note purchase agreement (promissory note) with AquaBounty. The promissory note allows for the Company to loan up to $500 to AquaBounty. Draws on the promissory note by AquaBounty accrue annual interest of 3% and mature no later than May 28, 2013. As of December 31, 2012, AquaBounty had drawn $200 on the promissory note. This outstanding balance plus accrued interest is included in related party receivables on the December 31, 2012 consolidated balance sheet. See Note 16 for discussion of additional matters related to the Company s relationship with AquaBounty.

7. Property, Plant and Equipment, net

Property, plant and equipment consist of the following:

	December 31, 2012	2011
Furniture and fixtures	857	844
Lab equipment	22,195	18,010
Leasehold improvements	4,972	3,016
Computer hardware	3,136	2,897
Construction in progress	14	2,024
Software	888	665
	32,062	27,456
Less: Accumulated depreciation and amortization	(13,375)	(8,972)
Property, plant and equipment, net	$ 18,687	$ 18,484

Depreciation expense was $4,957 and $3,078 for the years ended December 31, 2012 and 2011, respectively.

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The following table reflects the net book value of property and equipment financed through capital leases as of December 31 (Note 12):

	2012	2011
Lab equipment	$ 71	$ 71
Leasehold improvements	143	143
Computer hardware	90	90
	304	304
Less: Accumulated depreciation	(215)	(148)
	$ 89	$ 156

8. Intangible Assets, net

Intangible assets consist of the following at December 31, 2012:

	Gross Carrying Amount	Accumulated Amortization	Net
Patents and related technologies	$ 34,342	$ (4,851)	$ 29,491
Favorable rent asset	646	(631)	15
Total	$ 34,988	$ (5,482)	$ 29,506

Intangible assets consist of the following at December 31, 2011:

	Gross Carrying Amount	Accumulated Amortization	Net
Patents and related technologies	$ 34,342	$ (2,014)	$ 32,328
Favorable rent asset	646	(441)	205

Total	$ 34,988	$ (2,455)	$ 32,533

Amortization expense was $3,027 and $1,260 for the years ended December 31, 2012 and 2011, respectively. At December 31, 2012, the weighted average useful life for patents and related technology was 12.4 years and the useful life for the favorable rent asset was 3.4 years. Total amortization expense is estimated to be $2,853 for 2013, $2,641 for each year from 2014 through 2017, and $16,098 for the cumulative period thereafter.

9. Income Taxes

There is no income tax benefit recognized for the years ended December 31, 2012 and 2011 due to the Company s history of net losses combined with an inability to confirm recovery of the tax benefits of the Company s losses and other net deferred tax assets. Income tax benefit for the years ended December 31, 2012 and 2011 differed from amounts computed by applying the

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applicable U.S. federal corporate income tax rate of 34% to loss before income taxes as a result of the following:

	2012	2011
Computed statutory income tax benefit	$ (27,837)	$ (28,995)
(Increase) reduction in income tax benefit resulting from State income tax benefit, net of federal income taxes	(3,711)	(3,893)
Nondeductible stock based compensation	333	203
Contribution of services by shareholder	527	71
Research and development tax credits		(2,515)
Other, net	(238)	477
	(30,926)	(34,652)
Change in valuation allowance for deferred tax assets	30,926	34,652
Total income tax provision	$	$

The tax effects of temporary differences that comprise the deferred tax assets and liabilities at December 31 are as follows:

	2012	2011
Deferred tax assets		
Equity securities	$ 4,346	$ 1,098
Accrued liabilities	1,910	915
Stock-based compensation	363	178
Deferred revenue	22,684	6,546
Research and development tax credits	5,848	5,556
Net operating loss carryforwards	80,159	70,679
Total deferred tax assets	115,310	84,972
Less: Valuation allowance	113,051	82,125
Net deferred tax assets	2,259	2,847
Deferred tax liabilities		
Property and equipment	478	406
Intangible assets	1,781	2,441

Total deferred tax liabilities	2,259	2,847
Net deferred tax assets (liabilities)	$	$

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Activity within the valuation allowance for deferred tax assets during the years ended December 31, 2012 and 2011 was as follows:

	2012	2011
Valuation allowance at beginning of year	$ 82,125	$ 52,036
(Decrease) increase in valuation allowance as a result of		
Mergers and acquisitions, net		(4,563)
Current year operations	30,926	34,652
Valuation allowance at end of year	$ 113,051	$ 82,125

In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities, projected future taxable income and tax planning strategies in making this assessment. Due to the Company s history of net losses incurred from inception, no income tax benefit has been recorded and the corresponding deferred tax assets have been fully reserved as the Company cannot sufficiently be assured that these deferred tax assets will be realized in accordance with the provisions of ASC 740. The components of the deferred tax assets and liabilities as of the date of the mergers and acquisitions by the Company prior to consideration of the valuation allowance are substantially similar to the components of deferred tax assets presented herein.

The American Taxpayer Relief Act of 2012, which retroactively reinstated the federal research and development tax credit for 2012, was not enacted into law until January 2013. Therefore, the deferred tax asset and corresponding increase in the valuation allowance for the amount of the tax credit generated in 2012 will not be reflected until 2013 for financial statement purposes.

The Company s past issuances of stock and mergers and acquisitions have resulted in ownership changes as defined in Section 382 of the Internal Revenue Code of 1986. As a result, utilization of portions of the net operating losses may be subject to annual limitations. As of December 31, 2012, approximately $16,400 of the Company s net operating losses generated prior to 2008 are limited by Section 382 to annual usage limits of approximately $1,500. As of December 31, 2012, approximately $14,800 of the Company s net operating losses were inherited via acquisition and are limited based on the value of the target at the time of the transaction.

At December 31, 2012, the Company has loss carryforwards for federal income tax purposes of approximately $207,000 available to offset future taxable income and federal and state research and development tax credits of $5,848, prior to consideration of annual limitations that may be imposed under Section 382. These carryforwards will begin to expire in 2022.

The Company applies provisions related to the accounting for uncertain income tax positions in ASC 740-10. The Company does not have material unrecognized tax benefits as of December 31,

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2012. The Company does not anticipate significant changes in the amount of unrecognized tax benefits in the next 12 months. The Company s tax returns for years 2004 and forward are subject to examination by federal or state tax authorities due to the carryforward of unutilized net operating losses and research and development tax credits.

10. Redeemable Convertible Preferred Stock and Shareholders Deficit

The tables below represent a rollforward of the Redeemable Convertible Preferred Stock:

	Series A redeemable convertible preferred stock		Series B redeemable convertible preferred stock		Series B-1 redeemable convertible preferred stock	
	Shares	Amount	Shares	Amount	Shares	Amount
Balances at December 31, 2010	705,400	$ 802	694,000	$ 609	1,212,360	$ 1,240
Issuance of shares						
Accretion of dividends				30		60
Stock issuance costs						
Balances at December 31, 2011	705,400	802	694,000	639	1,212,360	1,300
Issuance of shares						
Accretion of dividends		556		30		60
Stock issuance costs						
Balances at December 31, 2012	705,400	$ 1,358	694,000	$ 669	1,212,360	$ 1,360

	Series C redeemable convertible preferred stock		Series C-1 redeemable convertible preferred stock		Series C-2 redeemable convertible preferred stock	
	Shares	Amount	Shares	Amount	Shares	Amount
Balances at December 31, 2010	4,546,360	$ 6,346	15,934,528	$ 30,436	18,617,020	$ 39,605
Issuance of shares						
Accretion of dividends		383		1,828		2,382
Stock issuance costs						

Balances at December 31, 2011	4,546,360	6,729	15,934,528	32,264	18,617,020	41,987
Issuance of shares						
Accretion of dividends		405		1,937		2,525
Stock issuance costs						
Balances at December 31, 2012	4,546,360	$ 7,134	15,934,528	$ 34,201	18,617,020	$ 44,512

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	Series C-3 redeemable convertible preferred stock		Series D redeemable convertible preferred stock		Series E redeemable convertible preferred stock	
	Shares	Amount	Shares	Amount	Shares	Amount
Balances at December 31, 2010	13,297,872	$ 26,489	11,240,794	$ 39,019		$
Issuance of shares			8,562,891	28,942	22,285,716	117,000
Accretion of dividends		1,593		3,971		3,621
Stock issuance costs				(8)		(2,667)
Balances at December 31, 2011	13,297,872	28,082	19,803,685	71,924	22,285,716	117,954
Issuance of shares					15,809,523	83,000
Accretion of dividends		1,688		4,328		10,465
Stock issuance costs						(16)
Balances at December 31, 2012	13,297,872	$ 29,770	19,803,685	$ 76,252	38,095,239	$ 211,403

The Series E Redeemable Convertible Preferred Stock (Series E), Series D Redeemable Convertible Preferred Stock (Series D), Series C-3 Redeemable Convertible Preferred Stock (Series C-3), Series C-2 Redeemable Convertible Preferred Stock (Series C-2), Series C-1 Redeemable Convertible Preferred Stock (Series C-1), Series C Redeemable Convertible Preferred Stock (Series C), Series B-1 Redeemable Convertible Preferred Stock (Series B-1), Series B Redeemable Convertible Preferred Stock (Series B) and Series A Redeemable Convertible Preferred Stock (Series A) collectively shall be referred as the Series Preferred .

Rights, Preferences and Terms of Capital

The following is a summary of the current rights, preferences and terms of the Company s outstanding equity instruments:

Liquidation Preference

In the event of any liquidation, dissolution, or winding up of the Company, distributions will first be made to the holders of the Series E, second to the holders of the Series D, third to the holders of the Series C-3, fourth to the holders of the Series C-2, fifth to the holders of the Series C-1, sixth to the holders of the Series C, seventh to the holders of Series B and B-1 together as a class, and eighth to the holders of the Series A, and thereafter to the holders of Series E, Series D, Series C-3, Series C-2, Series C-1, Series C, Series B, Series B-1, Series A and the common who shall receive all remaining funds available for distribution in proportion to the common held by each holder and the common that each of the holders of preferred shares have the right to acquire upon conversion of their preferred stock to common stock.

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Optional Redemption

After May 25, 2016, but prior to the occurrence of a qualified IPO, the holders of greater than three-fourths of then issued and outstanding shares of the Series E, Series D, Series C-3, Series C-2, Series C-1 and Series C, voting as a separate class, may elect by written notice to require the Company to redeem all of the then issued and outstanding shares of Series E, Series D, Series C-3, Series C-2, Series C-1 and Series C at an amount equal to the stated price adjusted for any stock dividends, combination or splits plus all accrued but unpaid dividends. Upon receipt of such written notice, the Company must notify the holders of the Series B-1, Series B and Series A of the redemption notice, upon which the holders of each of those classes may require the Company to redeem all of the then issued and outstanding shares of such class.

As a result of this optional redemption provision, the Company accretes changes in the redemption value from the date of issuance of all Series Preferred shares with a resultant change to additional paid-in capital or accumulated deficit in the absence of additional paid-in capital. The following table represents the aggregate redemption price per share for each class of Series Preferred:

	December 31,	
	2012	2011
Series E	5.62	5.41
Series D	3.86	3.64
Series C-3	2.24	2.12
Series C-2	2.40	2.26
Series C-1	2.15	2.03
Series C	1.58	1.49
Series B-1	1.14	1.09
Series B	1.02	0.98
Series A	1.99	1.88

The redemption will occur in the following order of preference: Series E, Series D, Series C-3, Series C-2, Series C-1, Series C, Series B-1 and Series B together as a class, and Series A.

Series A Redeemable Convertible Preferred Stock

Liquidity

In the event of any liquidation, dissolution, or winding up of the Company, all distributions will be made to Series A shareholders in the order described within Liquidation Preference above.

Voting

The holders of Series A shall be entitled to the number of votes on each matter submitted to a vote of the shareholders equal to the number of shares of common stock into which said shares

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could be converted. Any matter which requires approval of the Series Preferred shall require the approval of a majority of the outstanding Series Preferred.

Dividends

The holders of Series A shall be entitled to receive, when and if declared by the Board of Directors out of the retained earnings of the Company, dividends, payable in cash or shares of common stock, at the rate of six percent (6%) per annum on the Series A stated value. Once declared, dividends will be accrued and compounded annually from the initial date of issue. No dividends have been declared to date.

Conversion

The holders of Series A at any time may elect to convert all or any of their Series A into common stock, fully paid and nonassessable and free from all taxes, liens or charges. The Company will automatically convert all of the outstanding Series A into common stock upon the closing of a qualified IPO, or upon the written election of the holders of a majority of the outstanding Series A. Series A convert to common stock on a one to one basis and is subject to adjustment for stock splits and stock dividends. Upon automatic conversion of Series A, cumulative dividends are converted to common stock at a price per share equal to the fair market value of a common share at the time of conversion.

Series B and B-1 Redeemable Convertible Preferred Stock

Liquidity

In the event of any liquidation, dissolution, or winding up of the Company, all distributions will be made to Series B and B-1 shareholders in the order described within Liquidation Preference above.

Voting

The holders of Series B and B-1 shall be entitled to the number of votes on each matter submitted to a vote of the shareholders equal to the number of shares of common stock into which said shares could be converted. Any matter which requires approval of the Series Preferred shall require the approval of a majority of the outstanding Series Preferred.

Dividends

The holders of Series B and B-1 shall be entitled to receive, when and if declared by the Board of Directors out of the retained earnings of the Company, dividends, payable in cash or shares of common stock, at the rate of six percent (6%) per annum on the Series B and B-1 stated value. Once declared, dividends will be accrued annually from the initial date of issue and paid quarterly. No dividends have been declared to date.

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Conversion

The holders of Series B and B-1 at any time may elect to convert all or any of their Series B and B-1 into common stock, fully paid and nonassessable and free from all taxes, liens or charges. The shares of Series B and B-1 shall be automatically converted into fully paid and nonassessable common stock upon the closing of a qualified IPO or at the election of the holders of a majority of the outstanding Series B and B-1. Series B and B-1 convert to common stock on a one to one basis and is subject to adjustment for stock splits and stock dividends. Upon automatic conversion of Series B and B-1, cumulative dividends are converted to common stock at a price per share equal to the fair market value of a common share at the time of conversion.

Series C Redeemable Convertible Preferred Stock

Liquidity

In the event of any liquidation, dissolution, or winding up of the Company, all distributions will be made to Series C shareholders in the order described within Liquidation Preference above.

Voting

The holders of Series C shall be entitled to the number of votes on each matter submitted to a vote of the shareholders equal to the number of shares of common stock into which said shares could be converted. Any matter which requires approval of the Series Preferred shall require the approval of a majority of the outstanding Series Preferred.

Dividends

The holders of Series C shall be entitled to receive, when and if declared by the Board of Directors out of the retained earnings of the Company, dividends, payable in cash or shares of common stock, at the rate of six percent (6%) per annum on the Series C stated value. Once declared, dividends will be accrued and compounded annually from the initial date of issue and paid quarterly. No dividends have been declared to date.

Conversion

The holders of Series C at any time may elect to convert all or any of their Series C into common stock, fully paid and nonassessable and free from all taxes, liens or charges. The shares of Series C shall be automatically converted into fully paid and nonassessable common stock upon the closing of a qualified IPO or at the election of the holders of a majority of the outstanding Series C. Series C convert to common stock on a one to one basis and is subject to adjustment for stock splits and stock dividends. Upon automatic conversion of Series C, cumulative dividends are converted to common stock at a price per share equal to the fair market value of a common share at the time of conversion.

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Series C-1 Redeemable Convertible Preferred Stock

Liquidity

In the event of any liquidation, dissolution, or winding up of the Company, all distributions will be made to Series C-1 shareholders in the order described within Liquidation Preference above.

Voting

The holders of Series C-1 shall be entitled to the number of votes on each matter submitted to a vote of the shareholders equal to the number of shares of common stock into which said shares could be converted. Any matter which requires approval of the Series Preferred shall require the approval of a majority of the outstanding Series Preferred.

Dividends

The holders of Series C-1 shall be entitled to receive, when and if declared by the Board of Directors out of the retained earnings of the Company, dividends, payable in cash or shares of common stock, at the rate of six percent (6%) per annum on the Series C-1 stated value. Once declared, dividends will be accrued and compounded annually from the initial date of issue and paid quarterly. No dividends have been declared to date.

Conversion

The holders of Series C-1 at any time may elect to convert all or any of their Series C-1 into common stock, fully paid and nonassessable and free from all taxes, liens or charges. The shares of Series C-1 shall be automatically converted into fully paid and nonassessable common stock upon the closing of a qualified IPO or at the election of the holders of a majority of the outstanding Series C-1. Series C-1 converts to common stock on a one to one basis and is subject to adjustment for stock splits and stock dividends. Upon automatic conversion of Series C-1, cumulative dividends are converted to common stock at a price per share equal to the fair market value of a common share at the time of conversion.

Series C-2 Redeemable Convertible Preferred Stock

Liquidity

In the event of any liquidation, dissolution, or winding up of the Company, all distributions will be made to Series C-2 shareholders in the order described within Liquidation Preference above.

Voting

The holders of Series C-2 shall be entitled to the number of votes on each matter submitted to a vote of the shareholders equal to the number of shares of common stock into which said shares could be converted. Any matter which requires approval of the Series Preferred shall require the approval of a majority of the outstanding Series Preferred.

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Dividends

The holders of Series C-2 shall be entitled to receive, when and if declared by the Board of Directors out of the retained earnings of the Company, dividends, payable in cash or shares of common stock, at the rate of six percent (6%) per annum on the Series C-2 stated value. Once declared, dividends will be accrued and compounded annually from the initial date of issue and paid quarterly. No dividends have been declared to date.

Conversion

The holders of Series C-2 at any time may elect to convert all or any of their Series C-2 into common stock, fully paid and nonassessable and free from all taxes, liens or charges. The shares of Series C-2 shall be automatically converted into fully paid and nonassessable common stock upon the closing of a qualified IPO or at the election of the holders of a majority of the outstanding Series C-2. Series C-2 converts to common stock on a one to one basis and is subject to adjustment for stock splits and stock dividends. Upon automatic conversion of Series C-2, cumulative dividends are converted to common stock at a price per share equal to the fair market value of a common share at the time of conversion.

Series C-3 Redeemable Convertible Preferred Stock

Liquidity

In the event of any liquidation, dissolution, or winding up of the Company, all distributions will be made to Series C-3 shareholders in the order described within Liquidation Preference above.

Voting

The holders of Series C-3 shall be entitled to the number of votes on each matter submitted to a vote of the shareholders equal to the number of shares of common stock into which said shares could be converted. Any matter which requires approval of the Series Preferred shall require the approval of a majority of the outstanding Series Preferred.

Dividends

The holders of Series C-3 shall be entitled to receive, when and if declared by the Board of Directors out of the retained earnings of the Company, dividends, payable in cash or shares of common stock, at the rate of six percent (6%) per annum on the Series C-3 stated value. Once declared, dividends will be accrued and compounded annually from the initial date of issue and paid quarterly. No dividends have been declared to date.

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Conversion

The holders of Series C-3 at any time may elect to convert all or any of their Series C-3 into common stock, fully paid and nonassessable and free from all taxes, liens or charges. The shares of Series C-3 shall be automatically converted into fully paid and nonassessable common stock upon the closing of a qualified IPO or at the election of the holders of a majority of the outstanding Series C-3. Series C-3 converts to common stock on a one to one basis and is subject to adjustment for stock splits and stock dividends. Upon automatic conversion of Series C-3, cumulative dividends are converted to common stock at a price per share equal to the fair market value of a common share at the time of conversion.

Series D Redeemable Convertible Preferred Stock

Liquidity

In the event of any liquidation, dissolution, or winding up of the Company, all distributions will be made to Series D shareholders in the order described within Liquidation Preference above.

Voting

The holders of Series D shall be entitled to the number of votes on each matter submitted to a vote of the shareholders equal to the number of shares of common stock into which said shares could be converted. Any matter which requires approval of the Series Preferred shall require the approval of a majority of the outstanding Series Preferred.

Dividends

The holders of Series D shall be entitled to receive, when and if declared by the Board of Directors out of the retained earnings of the Company, dividends, payable in cash or shares of common stock, at the rate of six percent (6%) per annum on the Series D stated value. Once declared, dividends will be accrued and compounded annually from the initial date of issue and paid quarterly. No dividends have been declared to date.

Conversion

The holders of Series D at any time may elect to convert all or any of their Series D into common stock, fully paid and nonassessable and free from all taxes, liens or charges. The shares of Series D shall be automatically converted into fully paid and nonassessable common stock upon the closing of a qualified IPO or at the election of the holders of a majority of the outstanding Series D. Series D converts to common stock on a one to one basis and is subject to adjustment for stock splits and stock dividends. Upon automatic conversion of Series D, cumulative dividends are converted to common stock at a price per share equal to the fair market value of a common share at the time of conversion.

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Series E Redeemable Convertible Preferred Stock

Liquidity

In the event of any liquidation, dissolution, or winding up of the Company, all distributions will be made to Series E shareholders in the order described within Liquidation Preference above.

Voting

The holders of Series E shall be entitled to the number of votes on each matter submitted to a vote of the shareholders equal to the number of shares of common stock into which said shares could be converted. Any matter which requires approval of the Series Preferred shall require the approval of a majority of the outstanding Series Preferred.

Dividends

The holders of Series E shall be entitled to receive, when and if declared by the Board of Directors out of the retained earnings of the Company, dividends, payable in cash or shares of common stock, at the rate of six percent (6%) per annum on the Series E stated value. Once declared, dividends will be accrued and compounded annually from the initial date of issue and paid quarterly. No dividends have been declared to date.

Conversion

The holders of Series E at any time may elect to convert all or any of their Series E into common stock, fully paid and nonassessable and free from all taxes, liens or charges. The shares of Series E shall be automatically converted into fully paid and nonassessable common stock upon the closing of a qualified IPO or at the election of the holders of a majority of the outstanding Series E. Series E converts to common stock on a one to one basis and is subject to adjustment for stock splits and stock dividends. Upon automatic conversion of Series E, cumulative dividends are converted to common stock at a price per share equal to the fair market value of a common share at the time of conversion.

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The following table presents the aggregate and per-share amounts of arrearages in cumulative preferred dividends in ascending order of preference at December 31, 2012:

	Arrearage total	Arrearage per share
Series E Redeemable Convertible Preferred Shares	$ 14,086	$ 0.37
Series D Redeemable Convertible Preferred Shares	9,411	0.48
Series C-3 Redeemable Convertible Preferred Shares	4,819	0.36
Series C-2 Redeemable Convertible Preferred Shares	9,614	0.52
Series C-1 Redeemable Convertible Preferred Shares	9,222	0.58
Series C Redeemable Convertible Preferred Shares	2,162	0.48
Series B-1 Redeemable Convertible Preferred Shares	380	0.31
Series B Redeemable Convertible Preferred Shares	209	0.30
Series A Redeemable Convertible Preferred Shares	556	0.78

Of the arrearage amounts above, $50,459 has been accreted to the redemption price for each Series Preferred on the Company s December 31, 2012 consolidated balance sheet.

All shares of common stock are subordinate to the preferred shares with respect to dividend rights and rights upon the event of liquidation, winding up and/or dissolution of the Company.

11. Stock Option Plans

The Company records the fair value of stock options issued to employees and non-employees as of the grant date as stock-based compensation expense. Stock-based compensation expense for employees and non-employees is recognized over the requisite service period, which is typically the vesting period. Stock-based compensation cost that has been included in research and development expenses and general and administrative expenses amounted to $377 and $1,081, respectively, for the year ended December 31, 2012, and $763 and $220, respectively, for the year ended December 31, 2011.

On April 18, 2008, the Company adopted the 2008 Equity Incentive Plan (the 2008 Plan) for employees and nonemployees pursuant to which the Company s board of directors may grant share based awards to officers, key employees and nonemployees. During 2011, the 2008 Plan was amended to increase the number of authorized awards under the 2008 plan from 2,857,142 to 5,714,285. Awards issued pursuant to the Company s 2004 Stock Option Plan, the 2004 Stock Option Plan for Nonemployees and the 2006 Stock Option Plan were consolidated into the 2008 Plan and are subject to, and administered under the terms of the 2008 Plan.

Stock options can be granted with an exercise price equal to or greater than the stock s fair market value at the date of grant. Stock options can be granted with an exercise price less than the stock s fair market value at the date of grant if the stock options are replacement options in accordance with certain U.S. Treasury regulations. Virtually all stock options have ten-year terms and vest and become fully exercisable at no more than four years from the date of grant.

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At December 31, 2012, there were 2,920,609 remaining shares available for the Company to grant under the 2008 Plan. The Company uses the Black-Scholes option pricing model to estimate the grant-date fair value of all stock options. The Black-Scholes option pricing model requires the use of assumptions for estimated expected volatility, estimated expected term of stock options, risk-free rate, estimated expected dividend yield, and the fair value of the underlying common stock at the date of grant. Since the Company does not have sufficient history to estimate the expected volatility of our common stock price, expected volatility is based on the average volatility of peer public entities that are similar in size and industry. The Company estimates the expected term of all options based on previous history of exercises. The risk-free rate is based on the U.S. Treasury yield curve in effect at the time of grant for the expected term of the option. The expected dividend yield is 0% as the Company has not declared any common stock dividends to date and does not expect to declare common stock dividends in the near future. The fair value of the underlying common stock is determined based on a valuation of the Company s common stock. Actual forfeitures are recorded when incurred and estimated forfeitures are reviewed and adjusted at least annually. The assumptions used in the Black-Scholes option pricing model for the years ended December 31, 2012 and 2011 are set forth below:

	2012	2011
Valuation assumptions		
Expected dividend yield	0%	0%
Expected volatility	71% 76%	68% 72%
Expected term (years)	6.00	5.37 6.23
Risk-free interest rate	0.80% 1.10%	1.34% 2.51%

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Stock option activity during the years indicated is as follows:

	Number of shares	Weighted average exercise price	Weighted average remaining contractual term
Balances at December 31, 2010	1,448,145	2.71	6.99
Granted	2,429,684	6.48	
Exercised	(75,840)	(2.43)	
Forfeited	(145,214)	(3.34)	
Expired	(42,245)	(2.94)	
Balances at December 31, 2011	3,614,530	5.22	6.67
Granted	548,571	7.12	
Exercised	(194,570)	(2.43)	
Forfeited	(1,210,857)	(6.30)	
Expired	(444,148)	(2.29)	
Balances at December 31, 2012	2,313,526	5.90	7.87
Exercisable at December 31, 2012	808,633	4.06	6.43
Vested and Expected to Vest at December 31, 2012(1)	2,194,790	5.85	7.83

(1) The number of stock options expected to vest takes into account an estimate of expected forfeitures.

Total unrecognized compensation costs related to nonvested awards at December 31, 2012 and 2011 were $4,910 and $6,347, respectively, and are expected to be recognized over a weighted-average period of approximately three years.

The weighted average grant date fair value of options granted during 2012 and 2011 was $4.60 and $4.13, respectively. The aggregate intrinsic value of options exercised during 2012 and 2011 was $913 and $264, respectively. The aggregate intrinsic value of options is calculated as the difference between the exercise price of the underlying options and the fair value of the Company s common stock for those shares that had exercise prices lower than the fair value of the Company s common stock.

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The following table summarizes additional information about stock options outstanding as of December 31, 2012:

	Options outstanding			Options exercisable		
Exercise price	**Number of options**	**Weighted average remaining life (years)**	**Aggregate intrinsic value**	**Number of options**	**Weighted average remaining life (years)**	**Aggregate intrinsic value**
$0.38	57,264	8.07	$ 385	57,264	8.07	$ 385
$1.34	106,777	3.10	617	106,777	3.10	617
$1.92	23,143	4.25	120	23,143	4.25	120
$2.74	186,286	4.62	815	186,286	4.62	815
$3.29	183,442	6.77	703	126,014	6.72	483
$5.91	169,857	7.64	205	42,571	7.59	51
$7.12	1,586,757	8.77		266,578	8.53	
	2,313,526	7.87	$ 2,845	808,633	6.43	$ 2,471

The following table summarizes additional information about stock options outstanding as of December 31, 2011:

	Options outstanding			Options exercisable		
Exercise price	**Number of options**	**Weighted average remaining life (years)**	**Aggregate intrinsic value**	**Number of options**	**Weighted average remaining life (years)**	**Aggregate intrinsic value**
$0.38	145,406	9.07	$ 978	145,406	9.07	$ 978
$1.34	257,680	4.10	1,489	257,680	4.10	1,489
$1.68	58,286	2.84	317	58,286	2.84	317
$1.92	23,143	5.26	120	23,143	5.26	120
$1.96	3,015	9.07	16	3,015	9.07	16
$2.74	312,572	5.54	1,368	307,572	5.54	1,346
$3.29	564,286	7.50	2,163	212,929	7.35	816
$5.91	363,142	8.41	438			
$7.12	1,887,000	6.58				

3,614,530	6.67	$	6,889	1,008,031	5.91	$	5,082

The Company currently uses authorized and unissued shares to satisfy share award exercises.

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12. Commitments and Contingencies

Operating Leases

The Company leases its facilities and certain equipment under noncancelable operating leases. The equipment leases are renewable at the option of the Company. At December 31, 2012, future minimum lease payments under noncancelable operating leases having initial or remaining noncancelable lease terms in excess of one year are as follows:

2013	$ 2,825
2014	2,918
2015	2,492
2016	1,863
2017	927
Thereafter	72
	$ 11,097

Rent expense, including other facility expenses, was $5,036 and $4,000 in 2012 and 2011, respectively.

During 2011, the Company began subleasing space in two of its facilities to two different entities, one of which is an affiliate of certain preferred shareholders (Note 13). One of these agreements was terminated during 2011 while the other was terminated during 2012. During 2012, the Company began subleasing another of its facilities to another entity. This agreement remained in effect as of December 31, 2012. Rental income under sublease agreements was $151 and $158 for the years ended December 31, 2012 and 2011, respectively. Future rental income for the sublease agreement in effect at the end of 2012 is $365 for each year in 2013 and 2014 and $152 for 2015.

Capital Leases

The Company leases certain lab equipment, computer equipment, and leasehold improvements under capital leases. At December 31, 2012, future minimum lease payments under capitalized lease obligations are as follows:

2013	$ 54
2014	35
2015	10
	99
Less: Amounts representing interest	(8)

$ 91

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Research and Development

The Company has commitments with third parties in connection with research and development collaborations. See Note 2 for further discussion.

Contingencies

The Company may become subject to claims and assessments from time to time in the ordinary course of business. Such matters are subject to many uncertainties and outcomes are not predictable with assurance. The Company accrues liabilities for such matters when it is probable that future expenditures will be made and such expenditures can be reasonably estimated. As of December 31, 2012 and 2011, the Company does not believe that any such matters, individually or in the aggregate, will have a material adverse effect on the Company s business, financial condition, results of operations, or cash flows.

13. Related Party Transactions

Third Security, LLC (Third Security) and Affiliates

Certain affiliates of Third Security are shareholders of the Series B, B-1, C, C-1, C-2, C-3, D, and E Redeemable Convertible Preferred Stock.

On April 8, 2011, in anticipation of the closing of Series E, the Company issued convertible promissory notes with borrowings up to $25,000 to affiliates of Third Security. Terms of the notes included 12% simple interest annually with principal and interest due on or before June 30, 2011. The principal amount and all accrued interest automatically convert to shares of Series E upon the first sale of Series E. The Company borrowed $15,000 on the notes. The principal amount plus accrued interest of $165 was converted into 2,888,635 shares of Series E on May 26, 2011.

On June 6, 2011, the Company entered into a worldwide exclusive licensing agreement with Halozyme Therapeutics, Inc. (Halozyme) for the use of Halozyme s proprietary enzyme in one of the Company s targeted therapeutics. The Company and Halozyme are related parties through common ownership by affiliates of Third Security. The Company s CEO also serves on Halozyme s board of directors. Under the terms of the agreement, the Company paid a license fee of $9,000 upon execution of the agreement, which is recorded in research and development expenses on the accompanying consolidated statement of operations. The Company is required to pay an annual exclusivity fee of $1,000 commencing June 6, 2012 and on each anniversary of the effective date of the agreement thereafter until a certain development event occurs. If the Company successfully develops a product candidate using the license in the exclusive field of use and achieves an established sales target, the Company could pay up to $54 million in milestone payments. The Company is obligated to pay tiered royalties on net sales of the approved product. The Company may terminate this agreement in whole or on a product-by-product basis at any time upon 90 days written notice to Halozyme.

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Effective August 31, 2011, the Company entered into an asset purchase agreement with Cyntellect, Inc. (Cyntellect) to purchase the assets required to operate Cyntellect s cell processing platform business and assume certain liabilities related to the assets acquired, including assumption of the remaining term on the facility lease. The Company anticipates using the assets acquired to establish the capability to develop proprietary cell lines to be used internally by the Company or with the Company s collaborative partners. As consideration for the asset purchase, the Company issued 2,386,803 shares of its common stock valued at $17,000. Cyntellect was a related party and under common control by affiliates of Third Security. The Company recorded the transaction as a transaction between entities under common control using the guidance in ASC Subtopic 805-50, *Business Combinations: Related Issues* (ASC 805-50). ASC 805-50 requires that assets acquired and liabilities assumed be recorded on the transaction date at the carrying amount in the accounts of the transferring entity. The carrying amounts of the assets acquired and liabilities assumed is as follows:

Cash	$ 88
Other current assets	23
Property and equipment, net	1,724
Other assets	262
Total assets acquired	2,097
Accounts payable	41
Other accrued liabilities	107
Long-term debt	116
Total liabilities assumed	264
Net assets acquired	$ 1,833

ASC 805-50 also requires that results of operations be presented as if the transaction occurred at the beginning of the period and represent the combined operations of both entities. Financial statements and financial information presented for prior years in which the entities were under common control should also be retrospectively adjusted to furnish comparative information as if the entities were combined. The Company applied these presentation requirements of ASC 805-50.

The Company paid $128 of costs associated with this asset purchase, which are included in general and administrative expenses in the accompanying consolidated statement of operations for the year ended December 31, 2011.

The Company subleased a portion of one of its facilities to Cyntellect. The sublease included rent and a portion of applicable facility expenses. The sublease expired in May 2012. The Company received $64 and $77 of sublease income during 2012 and 2011, respectively.

The Manager of Third Security who is also a member of the Company s Board of Directors, (Board Member) assumed the role of CEO of the Company in April 2009 and served on a part-

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time basis in that capacity through 2011. In 2012, the CEO began serving in this role on a full-time basis. Although the CEO has not received compensation for his services as CEO, the Company recorded $1,550 and $210 in compensation expense for the years ended December 31, 2012 and 2011, respectively, based on the estimated salary and benefits appropriate for the role.

Transactions with Other Shareholders

At December 31, 2012 and 2011, the Company leased two office facilities from an affiliate of certain preferred shareholders. The Company has a receivable due from this affiliate in the form of security deposits which are included in other long term assets of $66 at December 31, 2012 and 2011. During 2012 and 2011, the Company incurred rent and other facility expenses of $903 and $783, respectively.

The Company contracts with a common shareholder to provide certain research and clinical services. During the years ended December 31, 2012 and 2011, the Company incurred total expenses for work performed under such contract of $91 and $202, respectively, of which none was payable at December 31, 2012 and $30 was payable at December 31, 2011.

In 2011, the Company paid a transaction fee in conjunction with the closing of its Series E to a financial services firm who employs certain preferred shareholders of the Company.

Transactions with ECC Parties

On January 6, 2011, in conjunction with the ECC with Ziopharm (Note 4), the Company purchased 2,426,235 shares of common stock at $4.80 per share at closing in a private placement. The Company agreed to purchase up to an additional $50,000 of common stock in conjunction with securities offerings that may be conducted by Ziopharm in the future, subject to certain conditions and limitations. On February 7, 2011, the Company purchased 1,910,000 shares of Ziopharm common stock at $5.75 per share in the first such securities offering. On January 20, 2012, the Company purchased 1,923,075 shares of Ziopharm common stock at $5.20 per share in another securities offering. At December 31, 2012, the Company had approximately $29,000 remaining on its purchase commitment. In conjunction with the ECC and the initial share purchase, the CEO of the Company joined the board of directors of Ziopharm.

In conjunction with the ECC with Synthetic Biologics (Note 4), the Company is entitled to, at its election, purchase up to 19.99% of securities offerings that may be conducted by Synthetic Biologics in the future, subject to certain conditions and limitations. The Company has been granted the right to make purchases of Synthetic Biologics common stock in the open market up to an additional 10% of Synthetic Biologics common stock. The Company has made no purchases of Synthetic Biologics common stock.

In conjunction with the ECC with Oragenics (Note 4), the Company is entitled to, at its election, purchase up to 30% of securities offerings that may be conducted by Oragenics in the future, subject to certain conditions and limitations. The Company has made no purchases of Oragenics common stock.

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14. Net Loss per Share

The following table presents the historical computation of basic and diluted net loss per share and the unaudited pro forma basic and diluted net loss per share:

	Year ended December 31,	
	2012	2011
Historical net loss per share:		
Numerator:		
Net loss	$ (81,874)	$ (85,280)
Add: Accretion of dividends on redeemable convertible preferred stock, not declared	(21,994)	(13,868)
Net loss attributable to common shareholders	(103,868)	(99,148)
Denominator:		
Weighted average shares outstanding, basic and diluted	5,533,690	5,240,647
Net loss attributable to common shareholders per share, basic and diluted	$ (18.77)	$ (18.92)
Pro forma net loss per share (unaudited):		
Numerator:		
Net loss attributable to Intrexon used to compute pro forma net loss per share, basic and diluted	$ (81,874)	
Denominator:		
Weighted average shares outstanding, basic and diluted	5,533,690	
Add: Shares issued upon conversion of all Series Preferred	61,368,058	
Add: Shares issued upon conversion of cumulative dividends on all Series Preferred	3,153,723	
Weighted average shares used in computing pro forma net loss per share, basic and diluted	70,055,471	
Pro forma net loss attributable to Intrexon per share, basic and diluted	$ (1.17)	

The following potentially dilutive securities have been excluded from the computations of diluted weighted average shares outstanding as of December 31, 2012 and 2011, as they would have been anti-dilutive:

	2012	December 31, 2011
Common shares issuable upon conversion of all Series Preferred	64,517,977	55,483,966
Options	2,313,526	3,614,530
Warrants	511,098	511,098
Total	67,342,601	59,609,594

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December 31, 2012 and 2011

(Amounts in thousands, except share and per share data)

In addition to the potentially dilutive securities in the table above, Series Preferred cumulative dividends convertible into common shares at a price per share equal to the fair market value of a common share at the time of conversion have been excluded from the computation of diluted weighted-average shares outstanding as of December 31, 2012 and 2011.

15. Defined Contribution Plan

The Company sponsors a defined contribution plan covering employees who meet certain eligibility requirements. The Company makes contributions to the plan in accordance with terms specified in the plan agreement. The Company s contributions to the plan were $755 and $433 in 2012 and 2011, respectively.

16. Subsequent Events

The Company applies the provisions of ASC 855, Subsequent Events (ASC 855), which provides general standards of accounting for and disclosures of events that occur after the consolidated balance sheet date, but before consolidated financial statements are issued or are available to be issued. ASC 855 also requires entities to disclose the date through which subsequent events were evaluated as well as the rationale for why that date was selected. The Company evaluated subsequent events through May 10, 2013, the date on which the consolidated financial statements were originally issued, and through July 26, 2013, the date on which those consolidated financial statements were available to be reissued.

In January and February 2013, AquaBounty borrowed $200 and $100, respectively, on the promissory note with the Company.

On February 14, 2013, the Company entered into an ECC with AquaBounty with the intent to enhance productivity and develop products in aquaculture. The Company will be reimbursed for research and development services performed as provided for in the ECC agreement. In the event of product sales from a product developed from the ECC, the Company will receive 16.66% of quarterly gross profits for each product. Also, on February 14, 2013, three individuals designated by the Company, including an employee of the Company, were appointed to AquaBounty s board of directors.

On March 1, 2013 and April 30, 2013, the Company issued Series F Redeemable Convertible Preferred Stock (Series F) for total gross proceeds of $150,000, net of $3,100 issuance costs, including $1,800 paid to a shareholder. The Series F has a stated value of $7.88 per share. In the event of liquidation, dissolution, or winding up of the Company, the Series F shareholders are entitled to be paid before any distributions are made to the shareholders of the Series Preferred. The holders of Series F shall be entitled to the number of votes on each matter submitted to a vote of the shareholders equal to the number of shares of common stock into which Series F shares could be converted. The holders of Series F shall be entitled to receive, when and if declared by the Board of Directors out of the retained earnings of the Company, dividends payable in cash or shares of common stock, at the rate of six percent per annum of the Series F stated value. The holders of Series F at any time may elect to convert all or any of their Series F into common stock, fully paid and nonassessable and free from all taxes, liens or charges. The shares of Series F shall be

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automatically converted info fully paid and nonassessable common stock upon the closing of a qualified IPO or at the election of the holders of a majority of the outstanding Series F. Series F converts to common stock on a one to one basis. Upon automatic conversion of Series F, cumulative dividends are converted to common stock at a price per share equal to the fair market value of a common share at the time of conversion. Any matter which requires approval of the Series Preferred, together with the Series F, shall require the approval of a majority of the outstanding Series Preferred together with the Series F. In conjunction with the issuance of Series F, the Company increased the number of authorized common shares to 185,000,000.

On March 15, 2013, the Company acquired 18,714,814 shares of AquaBounty for $4,907 in a private subscription offering increasing the Company s ownership in AquaBounty to 53.82%, which requires consolidation by the Company as of March 15, 2013. In conjunction with this share purchase, AquaBounty repaid the $500 promissory note plus accrued interest in its entirety.

On March 29, 2013, the Company entered into an ECC with Ampliphi Biosciences Corporation (Ampliphi). The Company is entitled to receive 24,000,000 common shares of Ampliphi as a technology access fee. The Company will be reimbursed for research and development services performed as provided for in the ECC agreement. The Company is entitled to various milestone payments upon achievement of certain events and royalties in the event of product sales from products developed from the ECC.

On March 29, 2013, the Company entered into an ECC with Genopaver, LLC (Genopaver), an entity controlled by Third Security. The Company is entitled to receive $3,000 as a technology access fee. The Company will be reimbursed for research and development services as provided for in the ECC agreement. The Company is entitled to a royalty on the gross profits of product sales from a product developed from the ECC.

On April 16, 2013, the Company terminated its ECC with Synthetic Biologics in Field One. As a result of this termination, all licenses granted by the Company under the ECC for use in Field One reverted back to the Company.

On April 27, 2013, the Company entered into an ECC with Soligenix, Inc. (Soligenix). The Company is entitled to receive 1,034,483 common shares of Soligenix as a technology access fee. The Company will be reimbursed for research and development services performed as provided for in the ECC agreement. The Company is entitled to various milestone payments upon achievement of certain events and royalties in the event of product sales from products developed from the ECC.

Through April 30, 2013, the Company s balance of equity securities has decreased approximately

$32,123 from the balance as of December 31, 2012, exclusive of equity securities received in 2013.

Effective July 26, 2013, the Company s board of directors and shareholders approved a reverse stock split of 1-for-1.75 of the Company s shares of common stock. Shareholders entitled to fractional shares as a result of the reverse stock split will receive a cash payment in lieu of receiving fractional shares. Shares of common stock underlying outstanding stock options and warrants were proportionately reduced and the respective exercise prices were proportionately increased in accordance with the terms of the agreements governing such securities.

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Intrexon Corporation and Subsidiaries

Consolidated Balance Sheets

(Unaudited)

(Amounts in thousands, except share and per share data)	September 30, 2013	December 31, 2012
Assets		
Current assets		
Cash and cash equivalents	$ 61,222	$ 10,403
Short-term investments	136,672	260
Receivables		
Trade	195	141
Related parties	4,538	531
Other	616	35
Prepaid expenses and other	2,992	2,163
Total current assets	206,235	13,533
Long-term investments	81,109	
Equity securities	107,567	83,116
Property, plant and equipment, net	17,020	18,687
Intangible assets, net	42,263	29,506
Goodwill	13,846	
Investment in affiliate	5,000	5,726
Other assets	1,158	1,078
Total assets	$ 474,198	$ 151,646

The accompanying notes are an integral part of these consolidated financial statements.

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Intrexon Corporation and Subsidiaries

Consolidated Balance Sheets

(Unaudited)

(Amounts in thousands, except share and per share data)	September 30, 2013	December 31, 2012
Liabilities, Redeemable Convertible Preferred Stock and Total Equity (Deficit)		
Current liabilities		
Accounts payable	$ 949	$ 632
Accrued compensation and benefits	3,693	3,766
Other accrued liabilities	2,299	2,208
Deferred revenue	7,398	9,963
Capital lease obligations, current	33	49
Current portion of long term debt	211	
Related party payables	5,134	99
Total current liabilities	19,717	16,717
Capital lease obligations, net of current portion	16	42
Long term debt, net of current portion	2,305	
Deferred revenue	59,994	48,673
Other long term liabilities	958	1,108
Total liabilities	82,990	66,540
Commitments and contingencies (Note 13)		
Series A redeemable convertible preferred stock, no par value; $1.21 stated value (liquidation preference of $0 and $1,406 as of September 30, 2013 and December 31, 2012, respectively); 0 and 705,400 shares authorized, issued and outstanding at September 30, 2013 and December 31, 2012, respectively		1,358
Series B redeemable convertible preferred stock, no par value; $0.72 stated value (liquidation preference of $0 and $709 as of September 30, 2013 and December 31, 2012, respectively); 0 and 694,000 shares authorized, issued and outstanding at September 30, 2013 and December 31, 2012, respectively		669
Series B-1 redeemable convertible preferred stock, no par value; $0.83 stated value (liquidation preference of $0 and $1,380 as of September 30, 2013 and December 31, 2012, respectively); 0 and 1,212,360 shares authorized, issued and outstanding at September 30, 2013 and December 31, 2012, respectively		1,360
Series C redeemable convertible preferred stock, no par value; $1.10 stated value (liquidation preference of $0 and $7,162 as of September 30, 2013 and December 31, 2012, respectively); 0 and 4,546,360 shares authorized, issued and outstanding at September 30, 2013 and December 31, 2012, respectively		7,134
Series C-1 redeemable convertible preferred stock, no par value; $1.57 stated value (liquidation preference of $0 and $34,222 as of September 30, 2013 and December 31, 2012, respectively); 0 and 15,934,528 shares authorized, issued and outstanding at September 30, 2013 and December 31, 2012, respectively		34,201
Series C-2 redeemable convertible preferred stock, no par value; $1.88 stated value (liquidation preference of $0 and $44,614 as of September 30, 2013 and December 31, 2012, respectively); 0 and 18,617,020 shares authorized, issued and outstanding at September 30, 2013 and December 31, 2012, respectively		44,512
Series C-3 redeemable convertible preferred stock, no par value; $1.88 stated value (liquidation preference of $0 and $29,819 as of September 30, 2013 and December 31, 2012, respectively); 0 and 13,297,872 shares authorized, issued and outstanding at September 30, 2013 and December 31, 2012, respectively		29,770

Series D redeemable convertible preferred stock, no par value; $3.38 stated value (liquidation preference of $0 and $76,347 as of September 30, 2013 and December 31, 2012, respectively); 0 and 19,803,685 shares authorized, issued and outstanding at September 30, 2013 and December 31, 2012, respectively	76,252
Series E redeemable convertible preferred stock, no par value; $5.25 stated value (liquidation preference of $0 and $214,086 as of September 30, 2013 and December 31, 2012, respectively); 0 and 38,095,239 shares authorized, issued and outstanding at September 30, 2013 and December 31, 2012, respectively	211,403

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(Amounts in thousands, except share and per share data)	September 30, 2013	December 31, 2012
Total equity (deficit)		
Common stock, no par value, 200,000,000 shares and 160,000,000 shares authorized as of September 30, 2013 and December 31, 2012, respectively; 96,987,495 and 5,661,525 shares issued and outstanding as of September 30, 2013 and December 31, 2012, respectively		
Additional paid-in capital	741,315	
Accumulated deficit	(364,210)	(321,553)
Accumulated other comprehensive income	28	
Total Intrexon shareholders equity (deficit)	377,133	(321,553)
Noncontrolling interest	14,075	
Total equity (deficit)	391,208	(321,553)
Total liabilities, redeemable convertible preferred stock and total equity (deficit)	$ 474,198	$ 151,646

The accompanying notes are an integral part of these consolidated financial statements.

Intrexon Corporation and Subsidiaries

Consolidated Balance Sheets

(Unaudited)

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Intrexon Corporation and Subsidiaries

Consolidated Statements of Operations

(Unaudited)

(Amounts in thousands, except share and per share data)	Three months ended September 30, 2013	Three months ended September 30, 2012	Nine months ended September 30, 2013	Nine months ended September 30, 2012
Revenues				
Collaboration revenues	$ 6,028	$ 2,904	$ 16,566	$ 7,163
Other revenues	105	21	324	106
Total revenues	6,133	2,925	16,890	7,269
Operating Expenses				
Research and development	10,763	14,364	35,867	50,984
General and administrative	7,407	5,046	21,320	19,139
Total operating expenses	18,170	19,410	57,187	70,123
Operating loss	(12,037)	(16,485)	(40,297)	(62,854)
Other Income (Expense)				
Unrealized appreciation (depreciation) in fair value of equity securities	27,339	(3,940)	5,704	12,031
Gain on previously held equity investment			7,415	
Interest expense	(6)	(17)	(31)	(42)
Investment income	38	1	58	3
Other expense	(343)	(49)	(349)	(75)
Total other income (expense)	27,028	(4,005)	12,797	11,917
Equity in net loss of affiliate			(390)	
Net income (loss)	$ 14,991	$ (20,490)	$ (27,890)	$ (50,937)
Net loss attributable to the noncontrolling interest	449		1,114	
Net income (loss) attributable to Intrexon	$ 15,440	$ (20,490)	$ (26,776)	$ (50,937)
Accretion of dividends on redeemable convertible preferred stock	(4,044)	(5,469)	(18,391)	(16,291)
Undistributed earnings allocated to preferred shareholders	(3,106)			
Net income (loss) attributable to common shareholders	$ 8,290	$ (25,959)	$ (45,167)	$ (67,228)
	$ 0.15	$ (4.66)	$ (2.05)	$ (12.21)

Net income (loss) attributable to common shareholders per share, basic				
Net income (loss) attributable to common shareholders per share, diluted	$ 0.15	$ (4.66)	$ (2.05)	$ (12.21)
Weighted average shares outstanding, basic	54,305,354	5,576,526	22,056,396	5,506,043
Weighted average shares outstanding, diluted	56,150,996	5,576,526	22,056,396	5,506,043
Unaudited pro forma net loss attributable to Intrexon per share (note 15):				
Net loss attributable to Intrexon per share basic and diluted			$ (0.32)	
Weighted average shares basic and diluted			83,738,320	

The accompanying notes are an integral part of these consolidated financial statements.

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Intrexon Corporation and Subsidiaries

Consolidated Statements of Comprehensive Income (Loss)

(Unaudited)

(Amounts in thousands)	Three months ended September 30, 2013	2012	Nine months ended September 30, 2013	2012
Net income (loss)	$ 14,991	$ (20,490)	$ (27,890)	$ (50,937)
Other comprehensive income (loss):				
Unrealized gain on investments	39		24	
Foreign currency translation adjustments	(46)		8	
Comprehensive income (loss)	14,984	(20,490)	(27,858)	(50,937)
Comprehensive loss attributable to the noncontrolling interest	470		1,110	
Comprehensive income (loss) attributable to Intrexon	$ 15,454	$ (20,490)	$ (26,748)	$ (50,937)

The accompanying notes are an integral part of these consolidated financial statements.

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Intrexon Corporation and Subsidiaries

Consolidated Statements of Shareholders and Total Equity (Deficit)

(Unaudited)

(Amounts in thousands, except share data)	Common stock Shares	Amount	Additional paid-in capital	Accumulated other comprehensive income	Accumulated deficit	Total Intrexon shareholders equity (deficit)	Noncontrolling Interest	Total equity (deficit)
Balances at December 31, 2012	5,661,525	$	$	$	$ (321,553)	$ (321,553)	$	$ (321,553)
Shares issued in IPO	11,499,998		168,801			168,801		168,801
Stock-based compensation expense			1,813			1,813	28	1,841
Exercises of stock options and warrant	111,450		51			51	4	55
Contribution of services by shareholder			1,163			1,163		1,163
Shares issued to nonemployee members of the Board of Directors	9,459		100			100		100
Accretion of dividends on redeemable convertible preferred shares			(2,510)		(15,881)	(18,391)		(18,391)
Conversion of redeemable convertible preferred shares, including accrued dividends, to common stock	79,705,130		571,898			571,898		571,898
Settlement of fractional shares from reverse stock split	(67)		(1)			(1)		(1)
Adjustments for noncontrolling interest							15,153	15,153
Net loss					(26,776)	(26,776)	(1,114)	(27,890)
Other comprehensive income				28		28	4	32
Balances at September 30, 2013	96,987,495	$	$ 741,315	$ 28	$ (364,210)	$ 377,133	$ 14,075	$ 391,208

The accompanying notes are an integral part of these consolidated financial statements.

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Intrexon Corporation and Subsidiaries

Consolidated Statements of Cash Flows

(Unaudited)

(Amounts in thousands)	Nine months ended September 30, 2013	2012
Cash flows from operating activities		
Net loss	$ (27,890)	$ (50,937)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	5,461	5,976
Loss on disposal of property and equipment	349	75
Unrealized appreciation on equity securities	(5,704)	(12,031)
Amortization of discount/premium of investments	251	
Equity in net loss of affiliate	390	
Gain on previously held equity investment	(7,415)	
Stock-based compensation expense	1,841	959
Contribution of services by shareholder	1,163	1,163
Shares issued to nonemployee members of the Board of Directors	100	85
Changes in operating assets and liabilities:		
Receivables:		
Trade	(49)	(36)
Related parties	(4,207)	40
Other	(572)	932
Prepaid expenses and other	(628)	(535)
Other assets	(58)	514
Accounts payable	182	(984)
Accrued compensation and benefits	(167)	1,915
Other accrued liabilities	(300)	(936)
Deferred revenue	(6,091)	4,867
Related party payables	35	(249)
Other long term liabilities	(150)	(13)
Net cash used in operating activities	(43,459)	(49,195)
Cash flows from investing activities		
Purchases of investments	(233,232)	(2)
Maturities of investments	15,498	
Purchases of equity securities	(3,900)	(10,000)
Acquisition of business, net of cash received	512	
Purchases of property and equipment	(1,262)	(7,145)
Proceeds from sale of property and equipment	480	16
Issuances of related party notes receivable	(300)	
Proceeds from related party notes receivable	500	34
Net cash used in investing activities	(221,704)	(17,097)

The accompanying notes are an integral part of these consolidated financial statements.

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Intrexon Corporation and Subsidiaries

Consolidated Statements of Cash Flows

(Unaudited)

(Amounts in thousands)	Nine months ended September 30, 2013	2012
Cash flows from financing activities		
Proceeds from issuance of Series E redeemable convertible preferred shares		50,560
Proceeds from issuance of Series F redeemable convertible preferred shares	150,000	
Proceeds from IPO, net of issuance costs	168,801	
Settlement of fractional shares	(5)	
Payments of capital lease obligations	(42)	(56)
Proceeds from long term debt	354	
Payments of long term debt	(36)	
Proceeds from stock option exercises	55	252
Payment of preferred stock issuance costs	(3,148)	(11)
Net cash provided by financing activities	315,979	50,745
Effect of exchange rate changes on cash and cash equivalents	3	
Net increase (decrease) in cash and cash equivalents	50,819	(15,547)
Cash and cash equivalents		
Beginning of period	10,403	19,628
End of period	$ 61,222	$ 4,081
Supplemental disclosure of cash flow information		
Cash paid during the period for interest	$ 50	$ 8
Significant noncash financing and investing activities		
Conversion of subscriptions payable into Series E redeemable convertible preferred shares	$	$ 7,440
Accretion of dividends on redeemable convertible preferred shares	18,391	16,291
Conversion of redeemable convertible preferred shares, including accrued dividends, to common stock	571,898	
Stock received as consideration for collaboration agreements	14,847	6,588
Accrued contribution to S & I Ophthalmic, LLC	5,000	

The accompanying notes are an integral part of these consolidated financial statements.

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Intrexon Corporation and Subsidiaries

Notes to Consolidated Financial Statements

(Unaudited)

(Amounts in thousands, except share and per share data)

1. Organization and Basis of Presentation

Intrexon Corporation (the Company or Intrexon) was formed in 1998. The Company is a Virginia corporation. During 2011, the Company formed or acquired three subsidiaries in connection with certain acquisitions. On March 15, 2013, the Company began consolidating AquaBounty Technologies, Inc. (AquaBounty) (Note 6). Intrexon uses synthetic biology for the fabrication of distinct products for collaboration with partners. The Company has operations in California, Florida, Maryland, North Carolina and Virginia. There are currently no treatments or products in production.

Effective July 26, 2013, the Company s board of directors and shareholders approved a reverse stock split of 1-for-1.75 of the Company s shares of common stock. Shareholders entitled to fractional shares as a result of the reverse stock split received a cash payment in lieu of receiving fractional shares. Shares of common stock underlying outstanding stock options and warrants were proportionately reduced and the respective exercise prices were proportionately increased in accordance with the terms of the agreements governing such securities. All share and per share data of the Company s common stock, including shares of common stock underlying stock options and warrants, have been retroactively adjusted in the accompanying consolidated financial statements to reflect the reverse stock split.

On August 13, 2013, the Company completed its initial public offering (IPO), whereby the Company sold 11,499,998 shares of common stock, inclusive of 1,499,999 shares of common stock sold by the Company pursuant to the full exercise of an overallotment option granted to the underwriters in connection with the IPO, at a price of $16.00 per share. The shares began trading on the New York Stock Exchange (NYSE) on August 8, 2013. The aggregate proceeds from the IPO were approximately $168,300, net of underwriting discounts and commissions of approximately $12,900 and offering expenses paid by the Company of approximately $2,800 (of which $2,300 were capitalized). Upon the closing of the IPO, all shares of the Company s redeemable convertible preferred stock, including accrued but unpaid dividends thereon, converted into 79,705,130 shares of common stock. Additionally, in connection with the closing of the IPO, the Company amended and restated its articles of incorporation to increase the number of authorized shares of common stock to 200,000,000 and decrease the number of authorized shares of undesignated preferred stock to 25,000,000.

These consolidated financial statements are presented in U.S. dollars and are prepared under accounting principles generally accepted in the United States of America (U.S. GAAP).

2. Summary of Significant Accounting Policies

Principles of Consolidation

The accompanying consolidated financial statements reflect the operations of the Company and its subsidiaries. All intercompany accounts and transactions have been eliminated. As of September 30, 2013, the Company uses the equity method of accounting to account for its

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Intrexon Corporation and Subsidiaries

Notes to Consolidated Financial Statements

(Unaudited)

(Amounts in thousands, except share and per share data)

investment in S & I Ophthalmic, LLC (S & I Ophthalmic), a joint venture between the Company and an indirect subsidiary (Sun Pharmaceutical Subsidiary) of Sun Pharmaceutical Industries Ltd. (Sun Pharmaceutical), an international specialty pharmaceutical company focused on chronic diseases (Note 7).

Unaudited Financial Information

The accompanying interim consolidated financial statements are unaudited and have been prepared in accordance with U.S. GAAP. Certain information and footnote disclosures normally included in the Company s annual financial statements have been condensed or omitted. These interim consolidated financial statements, in the opinion of management, reflect all normal recurring adjustments necessary for fair statement of the Company s financial position as of September 30, 2013 and results of operations and cash flows for the interim periods ended September 30, 2013 and 2012. These interim financial results are not necessarily indicative of the results to be expected for the year ending December 31, 2013, or for any other future annual or interim period. The accompanying interim unaudited consolidated financial statements should be read in conjunction with the audited consolidated financial statements and related notes thereto for the year ended December 31, 2012, included in the Prospectus that forms a part of the Company s Registration Statement on Form S-1 (File No. 333-189853), which was filed with the Securities and Exchange Commission pursuant to Rule 424 on August 8, 2013.

Revenue Recognition

The Company generates revenue through contractual agreements with collaborative partners (known as exclusive channel collaborations, ECC or ECCs) whereby the partners obtain exclusive access to the Company s proprietary technology for use in the research, development and commercialization of products and/or treatments in a contractually specified field of use. Generally, the terms of these collaborative agreements provide that the Company receive some or all of the following: (i) upfront payments upon consummation of the agreement, (ii) reimbursements for costs incurred by the Company for research and development and/or manufacturing efforts related to specific application provided for in the agreement, (iii) milestone payments upon the achievement of specified development, regulatory and commercial activities, and (iv) royalties on sales of products arising from the collaboration.

The Company s collaboration agreements typically contain multiple elements, or deliverables, including technology licenses, research and development services, and in certain cases manufacturing services. Effective January 1, 2011, the Company adopted the provisions of Accounting Standards Update (ASU) No. 2009-13, *Revenue Recognition (Topic 605): Multiple Deliverable Revenue Arrangements* (ASU 2009-13). In accordance with the provisions of ASU 2009-13, the Company identifies the deliverables within the agreements and evaluates which deliverables represent separate units of accounting. Analyzing the agreements to identify deliverables requires the use of judgment. A deliverable is considered a separate unit of

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Intrexon Corporation and Subsidiaries

Notes to Consolidated Financial Statements

(Unaudited)

(Amounts in thousands, except share and per share data)

accounting when the deliverable has value to the collaborative partner on a standalone basis based on the consideration of the relevant facts and circumstances for each agreement.

Consideration received is allocated at the inception of the agreement to all identified units of accounting based on their relative selling price. When available, the relative selling price for each deliverable is determined using vendor specific objective evidence (VSOE) of selling price or third-party evidence of selling price, if VSOE does not exist. If neither VSOE nor third-party evidence of selling price exists, the Company uses its best estimate of the selling price (BESP) for the deliverable. The amount of allocable consideration is limited to amounts that are fixed or determinable. The consideration received is allocated among the separate units of accounting, and the applicable revenue recognition criteria are applied to each of the separate units. The Company recognizes the revenue allocated to each unit of accounting as the Company delivers the related goods or services. If the Company determines that certain deliverables should be treated as a single unit of accounting, then the revenue is recognized using either a proportional performance or straight-line method, depending on whether the Company can reasonably estimate the level of effort required to complete its performance obligations under an arrangement and whether such performance obligations are provided on a best-efforts basis. As the Company cannot reasonably estimate its performance obligations related to its collaborators, the Company recognizes revenue on a straight-line basis over the period it expects to complete its performance obligations.

The terms of the Company s agreements may provide for milestone payments upon achievement of certain defined events. The Company applies ASU No. 2010-17, *Revenue Recognition Milestone Method* (ASU 2010-17 or Milestone Method). Under the Milestone Method, the Company recognizes consideration that is contingent upon the achievement of a milestone in its entirety as revenue in the period in which the milestone is achieved only if the milestone is substantive in its entirety. A milestone is considered substantive when it meets all of the following criteria:

(1) The consideration is commensurate with either the entity s performance to achieve the milestone or the enhancement of the value of the delivered item or items as a result of a specific outcome resulting from the entity s performance to achieve the milestone;

(2) The consideration relates solely to past performance; and

(3) The consideration is reasonable relative to all of the deliverables and payment terms with the arrangement.

In the event that a milestone is not considered substantive, the Company recognizes the milestone consideration as revenue using the same method applied to upfront payments.

Research and development services are a deliverable satisfied by the Company in accordance with the terms of the collaboration agreements and the Company considers these services to be inseparable from the license to the core technology; thus, reimbursements of services performed are recognized as revenue. Further, because reimbursement (i) is contingent upon performance

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Intrexon Corporation and Subsidiaries

Notes to Consolidated Financial Statements

(Unaudited)

(Amounts in thousands, except share and per share data)

of the services by the Company, (ii) does not include a profit component, and (iii) does not relate to any future deliverable, the revenue is recognized during the period in which the related services are performed and collection of such amounts is reasonable assured. Payments received from manufacturing services will be recognized when the earnings process related to the manufactured materials has been completed. Royalties to be received under the agreements will be recognized as earned.

The Company also generates revenue from other licenses of certain technologies and rental and other income from sublease agreements. License revenue is recognized on a straight-line basis over the term of the license agreement. Deferred revenue is recorded on the consolidated balance sheet when cash is received prior to the period in which the revenue is earned. Sublease and laboratory services revenues are recognized in the period in which they are earned.

Research and Development

The Company considers that regulatory and other uncertainties inherent in the research and development of new products preclude it from capitalizing such costs. Research and development expenses include salaries and related costs of research and development personnel, and the costs of consultants, facilities, materials and supplies associated with research and development projects as well as various laboratory studies. Indirect research and development costs include depreciation, amortization and other indirect overhead expenses.

The Company has research and development arrangements with third parties that include upfront and milestone payments. At September 30, 2013 and December 31, 2012, the Company had research and development commitments with third parties totaling $2,786 and $3,164, respectively, of which $1,267 and $1,431, respectively, had not yet been incurred. The commitments are generally cancellable by the Company at any time upon written notice.

Cash and Cash Equivalents

All highly liquid investments with an original maturity of three months or less at the date of purchase are considered to be cash equivalents. Cash balances at a limited number of banks may periodically exceed insurable amounts. The Company believes that it mitigates its risk by investing in or through major financial institutions. Recoverability of investments is dependent upon the performance of the issuer. At September 30, 2013 and December 31, 2012, the Company had cash equivalent investments in highly liquid money market accounts at major financial institutions of $56,693 and $9,384, respectively.

Short-term and Long-term Investments

Short-term and long-term investments include U.S. government debt securities, commercial paper and certificates of deposit. The Company determines the appropriate classification as short-term or long-term at the time of purchase based on original maturities and management s reasonable

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Intrexon Corporation and Subsidiaries

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expectation of sales and redemption. The Company reevaluates such classification at each balance sheet date. In June 2013, the Company s board of directors approved an investment policy to invest cash in excess of immediate requirements in securities to preserve principal and maintain sufficient liquidity. Accordingly, the Company purchases U.S. government debt securities, commercial paper and certificates of deposit. The Company s written investment policy requires investments to be explicitly rated by two of the three following rating services: Standard & Poor s, Moody s and/or Fitch and to have a minimum rating of A1, P1 and/or F-1, respectively, from those agencies. In addition, the investment policy limits the amount of credit exposure to any one issuer.

Equity Securities

The Company holds equity securities received and/or purchased from certain collaborative partners. Other than investments accounted for using the equity method and discussed below, the Company elected the fair value option to account for its equity securities held in these partners, some of which are equity method investments. These equity securities are recorded at fair value at each reporting date. Unrealized gains and losses resulting from fair value adjustments are reported in the consolidated statement of operations. These equity securities are classified as noncurrent in the consolidated balance sheet as the Company does not currently intend to sell these equity securities within one year. The Company has not sold any of these equity securities to date.

The Company records the fair value of securities received on the date the collaboration is consummated or the milestone is achieved using the closing, quoted price of the collaborator s security on that date, assuming the transfer of consideration is considered perfunctory. If the transfer of the consideration is not considered perfunctory, the Company considers the specific facts and circumstances to determine the appropriate date on which to evaluate fair value. The Company also evaluates whether any discounts for trading restrictions or other basis for lack of marketability should be applied to the fair value of the securities at inception of the collaboration. In the event the Company concludes that a discount should be applied, the fair value of the securities is adjusted at inception of the collaboration and re-evaluated at each reporting period thereafter.

Fair Value of Financial Instruments

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset and liability. As a basis for considering such assumptions, the Company uses a three-tier fair value hierarchy that prioritizes the inputs used in its fair value measurements. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority

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to unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy are as follows:

Level 1:	Quoted prices in active markets for identical assets and liabilities;
Level 2:	Other than quoted prices included in Level 1 inputs that are observable for the asset or liability, either directly or indirectly; and
Level 3:	Unobservable inputs for the asset or liability used to measure fair value to the extent that observable inputs are not available.

As discussed in Equity Securities above, the Company elected the fair value option for the equity securities held in certain collaborative partners.

Concentrations of Risk

Due to the Company s mix of fixed and variable rate securities holdings, the Company s investment portfolio is susceptible to changes in interest rates. As of September 30, 2013, the Company s investments had gross unrealized losses of $9. From time to time, the Company may liquidate some or all of its investments to fund operational needs or other activities, such as capital expenditures or business acquisitions. Depending on which investments the Company liquidates to fund these activities, the Company could recognize a portion, or all, of the gross unrealized losses.

Equity Method Investments

Through March 15, 2013, the Company accounted for its investment in AquaBounty, a biotechnology company focused on improving productivity in commercial aquaculture, using the equity method of accounting as the Company had the ability to exercise significant influence over, but not control, the operating activities of AquaBounty. Under the equity method of accounting, the Company included its pro-rata share of AquaBounty s operating results, adjusted for accretion of basis difference, on a separate line in the consolidated statement of operations called Equity in net loss of affiliate. On the consolidated balance sheet as of December 31, 2012, the Company presented its investment in AquaBounty as Investment in affiliate. The excess cost over the Company s pro-rata share of AquaBounty s net assets was identifiable intangible assets and equity-method goodwill. This equity-method goodwill was not amortized; however, the investment in AquaBounty was analyzed for impairment on a periodic basis or if an event occurred or circumstances changed that indicate the carrying amount may be impaired. On March 15, 2013, the Company acquired additional ownership interests in AquaBounty resulting in the Company gaining control over and thus consolidating AquaBounty. See Note 6 for additional discussion of this transaction.

The Company accounts for its investment in S & I Ophthalmic using the equity method of accounting as the Company has the ability to exercise significant influence over, but not control, the operating activities of S & I Ophthalmic. Under the equity method of accounting, the

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Company includes its pro-rata share of S & I Ophthalmic s operating results on a separate line in the consolidated statement of operations called Equity in net loss of affiliate . On the consolidated balance sheet as of September 30, 2013, the Company presented its investment in S & I Ophthalmic as Investment in affiliate. See Note 7 for additional discussion of S & I Ophthalmic.

The Company determined that it has significant influence over two and one of its collaborators as of September 30, 2013 and December 31, 2012, respectively based on its ownership interest, representation on the board of directors of the collaborator and other qualitative factors. As of December 31, 2012, the Company determined that one of these collaborators, Ziopharm Oncology, Inc. (Ziopharm), met the criteria of SEC Regulation S-X Article 3-09 for inclusion of separate financial statements of an equity method investment. The Company accounts for this investment using the fair value option. The fair value of the Company s equity securities of Ziopharm is $53,321 and $56,298 as of September 30, 2013 and December 31, 2012, respectively, and is included as equity securities in the respective consolidated balance sheets. The Company s ownership percentage of Ziopharm is 16.2% and 16.3% at September 30, 2013 and December 31, 2012, respectively. Unrealized appreciation (depreciation) in the fair value of the Company s equity securities held in Ziopharm is $24,766 and $(4,948) for the three months ended September 30, 2013 and 2012, respectively, and $(2,977) and $8,773 for the nine months ended September 30, 2013 and 2012, respectively. Summarized unaudited financial information for Ziopharm for the three and nine months ended September 30, 2013 and 2012 are as follows:

	Three months ended September 30,		Nine months ended September 30,	
	2013	2012	2013	2012
Revenues	$ 200	$ 200	$ 600	$ 600
Operating expenses	9,315	21,927	51,592	63,926
Loss from operations	(9,115)	(21,727)	(50,992)	(63,326)
Other	(7,598)	3,903	2,789	(2,581)
Net loss	$ (16,713)	$ (17,824)	$ (48,203)	$ (65,907)

Variable Interest Entities

The Company identifies entities that either (1) do not have sufficient equity investment at risk to permit the entity to finance its activities without additional subordinated financial support or (2) in which the equity investors lack an essential characteristic of a controlling financial interest as variable interest entities (VIE or VIEs). The Company performs an initial and on-going evaluation of the entities with which the Company has variable interests to determine if any of these entities are a VIE. If an entity is identified as a VIE, the Company performs an assessment to determine whether the Company has both (1) the power to direct activities that most significantly impact the VIE s economic performance and (2) have the obligation to absorb losses from or the right to receive benefits of the VIE that could potentially be significant to the VIE. If

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both of these criteria are satisfied, the Company is identified as the primary beneficiary of the VIE. As of December 31, 2012, the Company s investment in affiliate, AquaBounty, is identified as a VIE. The Company is not the primary beneficiary for this entity as the Company does not have the power to direct the activities that most significantly impact the economic performance of the VIE. As of December 31, 2012, the total carrying value of the Company s investment in the VIE was $5,726, which is the investment in AquaBounty. On March 15, 2013, the Company began consolidating AquaBounty in the Company s results of operations and financial position as a result of the Company s ownership in AquaBounty exceeding 50% (Note 6). The Company s maximum exposure to loss related to this VIE as of December 31, 2012 was limited to the carrying value of the investment in affiliate. As of September 30, 2013, two of the Company s collaborators, AmpliPhi Biosciences Corporation (AmpliPhi) and Genopaver, LLC (Genopaver), were identified as VIEs. The Company is not the primary beneficiary for either of these entities as the Company does not have the power to direct the activities that most significantly impact the economic performance of the VIEs. As of September 30, 2013, the total carrying value of the Company s investment in the VIEs was $11,540, which is equal to the value of the equity securities holdings in those VIEs.

Property, Plant and Equipment

Property, plant and equipment are stated at cost, less accumulated depreciation and amortization. Major additions or betterments are charged to the property accounts while repairs and maintenance are generally expensed as incurred. Depreciation and amortization is calculated on the straight-line method over the estimated useful lives of the assets. The estimated useful lives of these assets are as follows:

	Years
Building	13
Furniture and fixtures	7
Lab equipment	2 7
Computer hardware	5 7
Software	3 5

Leasehold improvements are amortized over the shorter of the useful life of the asset or the applicable lease term, generally one to four years.

Goodwill

Goodwill is an asset that represents the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognized (Note 6). Goodwill is reviewed for impairment at least annually. The Company has the option to perform a qualitative assessment to determine whether it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount prior to performing the two-step goodwill impairment test. If this is the case, the two-step goodwill impairment test is required. If

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it is more-likely-than-not that the fair value of a reporting unit is greater than the carrying amount, the two-step goodwill impairment test is not required.

If the two-step goodwill impairment test is required, first, the fair value of the reporting unit is compared with its carrying amount (including goodwill). If the fair value of the reporting unit is less than its carrying amount, an indication of goodwill impairment exists for the reporting unit and the entity must perform step two of the impairment test. Under step two, an impairment loss is recognized for any excess of the carrying amount of the reporting unit s goodwill over the implied fair value of that goodwill. The implied fair value of goodwill is determined by allocating the fair value of the reporting unit in a manner similar to a purchase price allocation and the residual fair value after this allocation is the implied fair value of the reporting unit goodwill. Fair value of the reporting unit is determined using a discounted cash flow analysis. If the fair value of the reporting unit exceeds its carrying amount, step two does not need to be performed.

The Company intends to perform its annual impairment review of goodwill in the fourth quarter, or sooner if a triggering event occurs prior to the annual impairment review.

Intangible Assets

Intangible assets subject to amortization consist of patents and related technologies acquired in mergers and acquisitions and a favorable lease asset acquired upon the assumption of a lease agreement. These intangible assets subject to amortization were recorded at fair value at the date of acquisition and are stated net of accumulated amortization. Indefinite-lived intangible assets consist of in-process research and development acquired as a result of a step acquisition (Note 6) and is recorded at fair value at the date of the step acquisition.

The Company applies the provisions of ASC Topic 350, *Intangibles, Goodwill and Other*, which requires the amortization of long-lived intangible assets to reflect the pattern in which the economic benefits of the intangible asset are expected to be realized. The intangible assets are amortized over their remaining estimated useful lives, ranging from seven to fourteen years for the patents and related technologies, and through the end of the original lease term, February 1, 2013, for the favorable lease asset.

Impairment of Long-Lived Assets

Long-lived assets to be held and used, including property, plant and equipment and intangible assets subject to amortization, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable. Conditions that would necessitate an impairment assessment include a significant decline in the observable market value of an asset, a significant change in the extent or manner in which an asset is used, or a significant adverse change that would indicate that the carrying amount of an asset or group of assets is not recoverable.

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Indefinite-lived intangible assets, including in-process research and development, are tested for impairment annually, or more frequently if events or circumstances between annual tests indicate that the asset may be impaired. Impairment losses on indefinite-lived intangible assets are recognized based solely on a comparison of their fair value to carrying value, without consideration of any recoverability test. The Company monitors the progression of its in-process research and development, as the likelihood of success is contingent upon regulatory approval.

Income Taxes

Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to both differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases as well as operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date of the change. Valuation allowances are established when necessary to reduce deferred tax assets to the amount expected to be realized.

The Company identifies any uncertain income tax positions and recognizes the effect of income tax positions only if those positions are more likely than not of being sustained. Recognized income tax positions are measured at the largest amount that is greater than 50% likely of being realized. Changes in recognition or measurement are reflected in the period in which the change in judgment occurs. The Company records interest, if any, related to unrecognized tax benefits as a component of interest expense. Penalties, if any, are recorded in general and administrative expenses.

Net Income (Loss) per Share and Unaudited Pro Forma Net Loss per Share

For three months ended September 30, 2012 and the nine months ended September 30, 2013 and 2012, basic net loss per share is calculated by dividing net loss attributable to common shareholders by the weighted average shares outstanding during the period, without consideration of common stock equivalents. Diluted net loss per share is calculated by adjusting weighted average shares outstanding for the dilutive effect of common stock equivalents outstanding for the period, determined using the treasury-stock method. For purposes of the diluted net loss per share calculation, preferred stock prior to the conversion to common stock, stock options and warrants are considered to be common stock equivalents but are excluded from the calculation of diluted net loss per share because their effect would be anti-dilutive and, therefore, basic and diluted net loss per share were the same for the three months ended September 30, 2012 and the nine months ended September 30, 2013 and 2012.

For the three months ended September 30, 2013, basic and diluted net income per share are presented in conformity with the two-class method, which is required because the Company had

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issued securities other than common stock that participate in dividends with common stock (participating securities). Shares of the Company s preferred stock were considered participating securities for the periods up to immediately prior to the closing of the Company s IPO on August 13, 2013 when all preferred stock was converted to common stock. The Company s preferred stock did not participate in the allocation of losses of the Company.

The two-class method requires that the Company calculate the net income per share attributable to common shareholders, which will differ from the Company s net income. Net income attributable to common shareholders is generally equal to net income less the accretion of dividends on preferred stock with any remaining earnings, after deducting dividends, allocated between the preferred shareholders and common shareholders as of the end of the period. The basic net income per share attributable to common shareholders is calculated by dividing the net income attributable to common shareholders by the weighted average number of shares of common stock outstanding for the period. Diluted net income per share attributable to common shareholders is computed by giving effect to all potential dilutive common stock equivalents outstanding during the period. For purposes of this calculation, preferred stock, stock options and warrants are considered to be common stock equivalents.

The calculations for the unaudited pro forma basic and diluted net loss per share assume the conversion of all outstanding shares of redeemable convertible preferred stock, plus the cumulative dividends payable to the convertible preferred shareholders, into shares of common stock upon the closing of the Company s IPO, as if the conversions had occurred at the beginning of the period or issuance date, if later. The unaudited pro forma net loss attributable to common shareholders used in the calculations of unaudited pro forma basic and diluted net loss per share has been adjusted to remove the cumulative preferred stock dividends.

Segment Information

The Company has determined that it operates in one segment. The Company uses synthetic biology for the creation of distinct products for collaboration with partners. All of the Company s revenues are derived in the United States of America. Substantially all of the Company s assets are located in the United States of America.

Recently Issued Accounting Pronouncements

In February 2013, the FASB issued ASU No. 2013-02, *Reporting of Amounts Reclassified Out of Accumulated Other Comprehensive Income* (ASU 2013-02). ASU 2013-02 requires that companies present either in a single note or parenthetically on the face of the financial statements, the effect of significant amounts reclassified from each component of accumulated other comprehensive income based on its source and the income statement line items affected by the reclassification. If a component is not required to be reclassified to net income in its entirety, companies would instead cross reference to the related footnote for additional information. ASU 2013-02 is effective for interim and annual reporting periods beginning after December 15, 2012. The Company has implemented the provisions of ASU 2013-02 as of January 1, 2013. The adoption of this amendment did not have a material impact on the Company s consolidated financial statements.

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In December 2011, the FASB issued ASU No. 2011-11, *Balance Sheet (Topic 210): Disclosures about Offsetting Assets and Liabilities* (ASU 2011-11). ASU 2011-11 requires an entity to disclose information about offsetting and related arrangements to enable users of financial statements to understand the effect of those arrangements on its financial position, and to allow investors to better compare financial statements prepared under U.S. GAAP with financial statements prepared under IFRS. The new standards are effective for annual periods beginning January 1, 2013 and interim periods within those annual periods. Retrospective application is required. The Company has implemented the provisions of ASU 2011-11 as of January 1, 2013. The adoption of this amendment did not have a material impact on the Company s consolidated financial statements.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates.

3. Collaboration Revenue

Deferred revenue primarily consists of consideration received for upfront and milestone payments in connection with the Company s collaborators and prepayments for research and development services performed for collaborators. Deferred revenue consists of the following:

	September 30, 2013	December 31, 2012
Upfront and milestone payments	$ 65,846	$ 51,359
Prepaid research and development services	1,502	7,229
Other	44	48
Total	$ 67,392	$ 58,636
Current portion of deferred revenue	7,398	9,963
Long-term portion of deferred revenue	59,994	48,673
Total	$ 67,392	$ 58,636

Ziopharm Oncology, Inc. ECC

Effective January 6, 2011, the Company entered into a worldwide ECC with Ziopharm. Under the ECC, Ziopharm received a license to the Company s technology platform within the field of oncology as defined more specifically in the agreement. Upon execution of the ECC, the Company received 3,636,926 shares of Ziopharm s common stock valued at $17,457 as upfront consideration. The Company is entitled to

additional shares of common stock representing the lesser of (i) the original shares received or (ii) the number of shares representing

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7.495% of Ziopharm s outstanding shares at the date of the dosing of the first patient in a Phase II clinical trial of a product candidate created, produced or developed by Ziopharm using the Company s technology (Ziopharm Milestone). The Company receives reimbursement payments for research and development services provided and manufacturing services for Company materials provided to Ziopharm during the ECC. Subject to certain expense allocations, Ziopharm will pay the Company 50% of the quarterly net profits derived from the sale of products developed from the ECC. Ziopharm is responsible for conducting preclinical and clinical development of product candidates, as well as for other aspects of commercialization or manufacturing of product candidates. The term of the ECC commenced on January 6, 2011 and continues until terminated pursuant to the ECC agreement. The ECC may be terminated by either party in the event of certain material breaches defined in the agreement and may be terminated voluntarily by Ziopharm upon 90 days written notice to the Company provided that no voluntary termination by Ziopharm can be made during the first two years of the ECC. See Note 14 for additional transactions with Ziopharm.

The Company identified the deliverables at the inception of the ECC which include the license to the Company s technology platform, two clinical-stage product candidates, services to transition the two clinical-stage product candidates, participation on the joint steering committee (JSC), the research and development services, and any manufacturing services to be provided. The Company grouped the deliverables into three units of accounting based on the nature of the deliverables and the separation criteria: (i) the two clinical-stage product candidates and related services to transition these product candidates to Ziopharm (Ziopharm Unit of Accounting 1), which had standalone value to Ziopharm at inception of the ECC; (ii) the license to the Company s technology platform, the Company s participation on the JSC and research and development services to be provided (Ziopharm Unit of Accounting 2), as these deliverables could not be separated; and (iii) manufacturing services to be provided for any Company materials in an approved product from the ECC (Ziopharm Unit of Accounting 3), which have standalone value and are contingent due to uncertainties on whether an approved product would be developed and require manufacturing by the Company. As VSOE and third party evidence of selling price was not available or practical, the BESP for each unit of accounting was determined using a historical cost approach due to the early stage of development of the Company s technology. In establishing BESP for Ziopharm Unit of Accounting 1, the Company used the accumulated costs incurred as of the ECC by the Company on the two clinical programs that were transferred to Ziopharm to approximate the cost to recreate the deliverables included in this unit of accounting. In establishing BESP for Ziopharm Unit of Accounting 2, the Company used the accumulated costs incurred as of the ECC by the Company on its technology platform licensed to Ziopharm to approximate the cost to recreate the deliverables included in this unit of accounting. The upfront consideration was allocated to Ziopharm Unit of Accounting 1 and Ziopharm Unit of Accounting 2 based on the relative selling price method. Ziopharm Unit of Accounting 3 was determined to be a contingent deliverable at the inception of the ECC due to the uncertainties surrounding whether an approved product would be developed and require manufacturing by the Company. As a result of the relative selling price method, $1,115 of the upfront consideration was allocated to Ziopharm Unit of Accounting 1, all of which was

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recognized as collaboration revenue for the year ended December 31, 2011 since the Company had completed its obligations to deliver this unit of accounting. The remaining $16,342 of upfront consideration was allocated to Ziopharm Unit of Accounting 2 and will be recognized over the expected life of the Company s technology platform using a straight-line approach. The Company recognized $314 of this allocated amount as collaboration revenue in both of the three months ended September 30, 2013 and 2012, respectively, and $942 and $943 in the nine months ended September 30, 2013 and 2012, respectively. The remaining balance of $12,886 of upfront consideration allocated to Ziopharm Unit of Accounting 2 is recorded as deferred revenue at September 30, 2013.

The Company recognizes the reimbursement payments received for research and development services provided pursuant to the agreement in the period when the services are performed and collection is reasonably assured. On March 21, 2012, the Company received $10,000 from Ziopharm as a prepayment of research and development services to be provided in conjunction with the ECC. The Company recorded this amount as deferred revenue and recognizes collaboration revenue as services are performed. The Company recognized $2,122 and $2,137 of collaboration revenue for research and development services performed in the three months ended September 30, 2013 and 2012, respectively, of which $1,141 and $1,893 was applied against the $10,000 prepayment received, respectively. The Company recognized $5,843 and $5,095 of collaboration revenue for research and development services performed in the nine months ended September 30, 2013 and 2012, respectively, of which $4,862 and $3,900 was applied against the $10,000 prepayment received, respectively. A balance of $981 is included as related party receivables on the September 30, 2013 consolidated balance sheet. As of September 30, 2013 the entire balance of the prepayment had been used.

At inception of the agreement, the Company determined that the Ziopharm Milestone is not substantive and cannot be recognized when earned in accordance with ASU 2010-17 as the Milestone Method substantive criteria discussed in Note 2 were not met. On October 24, 2012, the Ziopharm Milestone was achieved and the Company received 3,636,926 shares of Ziopharm s common stock valued at $18,330 as milestone consideration, which is the sole milestone under this ECC. Since the Ziopharm Milestone was not substantive, the Company allocated the milestone consideration to Ziopharm Unit of Accounting 1 and Ziopharm Unit of Accounting 2 using the same relative selling price allocation as the upfront consideration. As a result, $1,171 of the milestone consideration was allocated to Ziopharm Unit of Accounting 1 and immediately recognized as collaboration revenue for the year ended December 31, 2012 and the remaining $17,159 was allocated to Ziopharm Unit of Accounting 2. The Company recognized $2,420 of the milestone consideration allocated to Ziopharm Unit of Accounting 2 as collaboration revenue at the date the Ziopharm Milestone was achieved, which represented the amount that would have been recognized from inception of the ECC through the milestone achievement date had the payment been received upfront. The remaining $14,739 was recorded as deferred revenue and will be recognized over the expected life of the Company s technology platform using a straight-line approach. The Company recognized $330 and $990 of this deferred milestone consideration for the three and nine months ended September 30, 2013, respectively, and the remaining

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$13,529 is included as deferred revenue on the September 30, 2013 consolidated balance sheet.

Royalties related to product sales will be recognized when earned as the payments relate directly to products that have been fully developed and for which the Company has satisfied all of its obligations.

Synthetic Biologics, Inc. ECCs

Effective November 18, 2011, the Company entered into a worldwide ECC with Synthetic Biologics, Inc. (Synthetic Biologics), a publicly traded company focused on the development of innovative disease-modifying medicines for serious illnesses. Under the ECC, at the transaction effective date, Synthetic Biologics received a license to the Company s technology platform within a designated field (Field One). Upon execution of the ECC, the Company received 3,123,558 shares of Synthetic Biologics common stock valued at $1,687 as upfront consideration. The Company is entitled to additional shares of common stock representing the lesser of (i) the original shares received or (ii) the number of shares representing 9.995% of Synthetic Biologics outstanding shares at the date of the dosing of the first patient in a Phase II clinical trial of a product candidate created, produced or developed by Synthetic Biologics using the Company s technology (Synthetic Biologics Field One Milestone). The Company will receive reimbursement payments for research and development services provided pursuant to the agreement and manufacturing services for Company materials provided to Synthetic Biologics during the ECC. Subject to certain expense allocations, Synthetic Biologics will pay the Company 50% of the quarterly net profits derived from the sale of products developed from the ECC. Synthetic Biologics is responsible for conducting preclinical and clinical development of product candidates, as well as for other aspects of commercialization or manufacturing of the product candidates. The term of the ECC commenced on November 18, 2011 and continues until terminated pursuant to the ECC agreement. The ECC may be terminated by either party in the event of certain material breaches defined in the agreement and may be terminated voluntarily by Synthetic Biologics upon 90 days written notice to the Company provided that no voluntary termination by Synthetic Biologics can be made during the first 18 months of the ECC. See Note 14 for a description of additional arrangements with Synthetic Biologics.

The Company identified the deliverables at the inception of the ECC which include the license to the Company s technology platform, participation on the JSC, the research and development services and any manufacturing services to be provided. The Company grouped the deliverables into two units of accounting based on the nature of the deliverables and the separation criteria: (i) the license to the Company s technology platform, the Company s participation on the JSC and research and development services to be provided (Synthetic Biologics Field One Unit of Accounting 1), as these deliverables could not be separated, and (ii) manufacturing services to be provided for any Company materials in an approved product from the ECC (Synthetic Biologics Field One Unit of Accounting 2), which have standalone value and are contingent due to uncertainties on whether an approved product would be developed and require manufacturing by the Company. As VSOE and third party evidence of selling price was not available or practical, the BESP for each unit of accounting was determined using a historical cost

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approach due to the early stage of development of the Company s technology. In establishing BESP for Synthetic Biologics Field One Unit of Accounting 1, the Company used the accumulated costs incurred as of the ECC by the Company on its technology platform licensed to Synthetic Biologics to approximate the cost to recreate the deliverables included in this unit of accounting. All upfront consideration was allocated to Synthetic Biologics Field One Unit of Accounting 1. Synthetic Biologics Field One Unit of Accounting 2 was determined to be a contingent deliverable at the inception of the ECC due to the uncertainties surrounding whether an approved product would be developed and require manufacturing by the Company. The $1,687 of upfront consideration was allocated to Synthetic Biologics Field One Unit of Accounting 1 and was recognized over the expected life of the Company s technology platform using a straight-line approach. On April 16, 2013, the Company terminated its ECC with Synthetic Biologics in Field One. As a result of this termination, all licenses granted by the Company under the ECC for use in Field One reverted back to the Company and the Company recognized the balance of deferred revenue associated with the upfront consideration as collaboration revenue in April 2013. The Company recognized $33 of collaboration revenue for the three months ended September 30, 2012 and $1,535 and $97 for the nine months ended September 30, 2013, and 2012, respectively.

On August 6, 2012, the Company entered into its second worldwide ECC with Synthetic Biologics. Under this ECC, at the transaction effective date, Synthetic Biologics received a license to the Company s technology platform within a second designated field (Field Two). Upon Synthetic Biologics shareholders approval on October 5, 2012, the Company received a technology access fee of 3,552,210 shares of Synthetic Biologics common stock valued at $7,815 as upfront consideration. Upon the filing by Synthetic Biologics of an investigational new drug application with the U.S. Food and Drug Administration, or FDA, the Company will receive cash or common stock at the option of Synthetic Biologics valued at $2,000. Upon the first to occur of either the first commercial sale of a product developed under the ECC or the granting of regulatory approval of a product developed under the ECC, the Company will receive cash or common stock at the option of Synthetic Biologics valued at $3,000. The ECC initially targets three infectious diseases and Synthetic Biologics may elect to target up to five more infectious diseases by paying the Company a field expansion fee of $2,000 in either cash or common stock for each additional infectious disease selected. The regulatory milestones and field expansion fee(s) are referred to as the Synthetic Biologics Field Two Milestones. The Company receives reimbursement payments for research and development services provided pursuant to the agreement and manufacturing services for preclinical Company materials provided to Synthetic Biologics during the ECC. The Company has the option to propose, and Synthetic Biologics can select, the Company to be the bulk manufacturer of products developed from the ECC. On a quarterly basis, Synthetic Biologics will pay the Company royalties with percentages ranging from upper-single digits to lower double digits of net sales of products developed from the ECC. Synthetic Biologics is responsible for conducting preclinical and clinical development of product candidates, as well as for other aspects of commercialization and manufacturing of the product candidates. The term of the ECC commenced on August 6, 2012 and continues until terminated pursuant to the ECC

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agreement. The ECC may be terminated by either party in the event of certain material breaches defined in the agreement and may be terminated voluntarily by Synthetic Biologics upon 90 days written notice to the Company provided that no voluntary termination by Synthetic Biologics can be made during the first 18 months of the ECC.

The Company identified the deliverables at the inception of the ECC which include the license to the Company s technology platform, participation on the JSC, the research and development services and the potential manufacturing services of a product(s) to be provided if the Company is elected as the manufacturer. The Company grouped the deliverables into two units of accounting based on the nature of the deliverables and the separation criteria: (i) the license to the Company s technology platform, the Company s participation on the JSC and research and development services to be provided (Synthetic Biologics Field Two Unit of Accounting 1), as these deliverables could not be separated, and (ii) the potential manufacturing services to be provided for a product(s) from the ECC (Synthetic Biologics Field Two Unit of Accounting 2), which have standalone value and are contingent due to uncertainties on whether an approved product would be developed and require manufacturing by the Company. As VSOE and third party evidence of selling price was not available or practical, the BESP for each unit of accounting was determined using a historical cost approach due to the early stage of development of the Company s technology. In establishing BESP for Synthetic Biologics Field Two Unit of Accounting 1, the Company used the accumulated costs incurred as of the ECC by the Company on its technology platform licensed to Synthetic Biologics to approximate the cost to recreate the deliverables included in this unit of accounting. All up-front consideration was allocated to Synthetic Biologics Field Two Unit of Accounting 1. Synthetic Biologics Field Two Unit of Accounting 2 was determined to be a contingent deliverable at the inception of the ECC due to the uncertainties surrounding whether any approved products would be developed and whether the Company is elected by Synthetic Biologics to be the manufacturer of any approved products. The $7,815 of upfront consideration was allocated to Synthetic Biologics Field Two Unit of Accounting 1 and will be recognized over the expected life of the Company s technology platform using a straight-line approach. The Company recognized $163 and $489 of collaboration revenue for the three and nine months ended September 30, 2013, respectively. The remaining $7,163 is recorded as deferred revenue at September 30, 2013.

At inception of the agreement, the Company determined that the Synthetic Biologics Field Two Milestones are not substantive and cannot be recognized when earned in accordance with ASU 2010-17 as the Milestone Method substantive criteria discussed in Note 2 were not met. Royalties related to product net sales will be recognized when earned as the Company has determined that these sales based milestones are not considered a milestone payment under ASU 2010-17.

The Company recognizes the reimbursement payments received for research services in the period when the services are performed and collection is reasonably assured. The Company recognized $176 and $71 of collaboration revenue for research and development services performed in the three months ended September 30, 2013 and 2012, respectively, for both ECCs and $865 and $194 in the nine months ended September 30, 2013 and 2012, respectively. On December 17, 2012, the Company received $2,500 from Synthetic Biologics as a prepayment of

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research and development services to be provided in conjunction with either of the two ECCs. The Company recorded this amount as deferred revenue and recognizes collaboration revenue as services are performed. All collaboration revenue recognized in the three and nine months ended September 30, 2013 was applied against the $2,500 prepayment received. The balance of $1,502 is included in deferred revenue on the September 30, 2013 consolidated balance sheet. Any remaining balance of this prepayment is refundable to Synthetic Biologics in the event both ECCs are terminated.

Elanco ECC

Effective November 28, 2011, the Company entered into a worldwide ECC with Elanco, the animal health division of Eli Lilly and Company (Elanco). The Company received cash upfront and is entitled to additional amounts up to an aggregate of $2,250 per product candidate based on the occurrence of separate performance, regulatory and sales-based milestones. The Company receives reimbursement payments for research services provided to Elanco during the ECC up to a certain maximum per calendar year. Elanco will pay the Company royalties with percentages ranging from mid-to-upper single digits to lower double digits based on net sales of products developed from the ECC. The term of the ECC commenced on November 28, 2011 and continues until terminated pursuant to the agreement. The ECC may be terminated by either party in the event of certain material breaches and may be voluntarily terminated in its entirety or on target-by-target basis upon 90 days written notice to the Company or 180 days written notice if the Company is performing research services on a product target.

The Company identified the deliverables at the inception of the ECC which are the license to the Company s technology platform, participation on the ECC s JSC, the research services and potential manufacturing services. The Company grouped the deliverables into two units of accounting based on the nature of the deliverables and the separation criteria: (i) the license to the Company s technology platform, the Company s participation on the JSC and research services to be provided (Elanco Unit of Accounting 1), as these deliverables could not be separated, and (ii) if approved by Elanco, manufacturing services to be provided for any Company materials in an approved product from the ECC (Elanco Unit of Accounting 2), which have standalone value and are contingent due to uncertainties on whether an approved product would be developed and require manufacturing by the Company. As VSOE and third party evidence of selling price was not available or practical, the BESP for each unit of accounting was determined using a historical cost approach due to the early stage of development of the Company s technology. In establishing BESP for Elanco Unit of Accounting 1, the Company used the accumulated costs incurred as of the ECC by the Company on its technology platform licensed to Elanco to approximate the cost to recreate the deliverables included in this unit of accounting. All the upfront consideration was allocated to Elanco Unit of Accounting 1. Elanco Unit of Accounting 2 was determined to be a contingent deliverable at the inception of the ECC due to the uncertainties surrounding whether an approved product would be developed and whether the Company would be approved by Elanco to provide such manufacturing. The upfront

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consideration was allocated to Elanco Unit of Accounting 1 and will be recognized over the expected life of the Company s technology platform using a straight-line approach.

The Company recognizes the reimbursement payments received for research services provided pursuant to the agreement in the period when the services are performed and collection is reasonably assured. The Company recognized $90 and $51 of collaboration revenue for research and development services performed in the three months ended September 30, 2013 and 2012, respectively, and recognized $289 and $485 in the nine months ended September 30, 2013 and 2012, respectively, of which $91 is included as trade receivables on the September 30, 2013 consolidated balance sheet.

At inception of the agreement, the Company determined that the performance milestone is substantive and can be recognized when earned in accordance with ASU 2010-17 as the milestone met all the criteria required by ASU 2010-17 to be considered substantive. The regulatory milestone is not substantive as the milestone did not meet all of the criteria required by ASU 2010-17 to be considered substantive. The sales-based milestone and royalties will be recognized when earned as the payments relate directly to products that have been fully developed and for which the Company has satisfied all of its obligations.

Oragenics, Inc. ECCs

Effective June 5, 2012, the Company entered into a worldwide ECC with Oragenics, Inc. (Oragenics), a publicly traded company focused on becoming the world leader in novel antibiotics against infectious disease and probiotics for oral health for humans and pets. Under the ECC, at the transaction effective date, Oragenics received a license to the Company s technology platform within the field of lantibiotics for the treatment of infectious diseases in humans and companion animals as defined more specifically in the agreement. Upon execution of the ECC, the Company received a technology access fee of 4,392,425 shares of Oragenics common stock valued at $6,588 as upfront consideration. The Company is entitled to receive additional shares of common stock, or at Oragenics option, receive a cash payment based upon the fair market value of the shares, upon the separate achievement of certain regulatory milestones of the first product candidate developed from the ECC (Oragenics ECC 1 Milestones). The Oragenics Milestones include: (i) 1% of Oragenics outstanding shares as defined in the ECC agreement at the date of the filing of the first Investigative New Drug Application with the U.S. Food and Drug Administration (U.S. FDA) for a product candidate created, produced or developed using the Company s technology (Oragenics ECC 1 Product); (ii) 1.5% of Oragenics outstanding shares as defined in the ECC agreement at the date of the dosing of the first patient in the first Phase II clinical trial of an Oragenics ECC 1 Product; (iii) 2% of Oragenics outstanding shares as defined in the ECC agreement at the date of the dosing of the first patient in the first Phase III clinical trial of an Oragenics ECC 1 Product; (iv) 2.5% of Oragenics outstanding shares as defined in the ECC agreement at the date of the first New Drug Application or Biologics License Application with the U.S. FDA for an Oragenics ECC 2 Product, or alternatively the first equivalent regulatory filing with a foreign agency; and (v) 3% of Oragenics

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outstanding shares as defined in the ECC agreement at the date of the granting of the first regulatory approval of an Oragenics ECC 1 Product. The Company receives reimbursement payments for research and development services provided pursuant to the agreement during the ECC and manufacturing services for Company materials provided to Oragenics during the ECC. Oragenics will pay the Company 25% of the quarterly profits derived from the sale of products developed from the ECC.

Oragenics is responsible for funding the further development of lantibiotics toward the goal of commercialization, conducting preclinical and clinical development of product candidates, as well as for other aspects of commercialization or manufacturing of the product candidates. The term of the ECC commenced on June 5, 2012 and continues until terminated pursuant to the ECC agreement. The ECC may be terminated by either party in the event of certain material breaches defined in the agreement and may be terminated voluntarily by Oragenics upon 90 days written notice to the Company provided that no voluntary termination by Oragenics can be made during the first 18 months of the ECC. See Note 14 for additional arrangements with Oragenics.

The Company identified the deliverables at the inception of the ECC which include the license to the Company s technology platform, participation on the JSC, the research and development services and any manufacturing services to be provided. The Company grouped the deliverables into two units of accounting based on the nature of the deliverables and the separation criteria: (i) the license to the Company s technology platform, the Company s participation on the JSC and research and development services to be provided (Oragenics ECC 1 Unit of Accounting 1), as these deliverables could not be separated, and (ii) any manufacturing services to be provided for any Company materials in an approved product from the ECC (Oragenics ECC 1 Unit of Accounting 2), which have standalone value and are contingent due to uncertainties on whether an approved product would be developed and require manufacturing by the Company. As VSOE and third party evidence of selling price was not available or practical, the BESP for each unit of accounting was determined using a historical cost approach due to the early stage of development of the Company s technology. In establishing BESP for Oragenics ECC 1 Unit of Accounting 1, the Company used the accumulated costs incurred as of the ECC by the Company on its technology platform licensed to Oragenics to approximate the cost to recreate the deliverables included in this unit of accounting. All upfront consideration was allocated to Oragenics ECC 1 Unit of Accounting 1. Oragenics ECC 1 Unit of Accounting 2 was determined to be a contingent deliverable at the inception of the ECC due to the uncertainties surrounding whether an approved product would be developed and require manufacturing by the Company and whether the Company would elect to be the manufacturer. The $6,588 of upfront consideration was allocated to Oragenics ECC 1 Unit of Accounting 1 and will be recognized over the expected life of the Company s technology platform using a straight-line approach. The Company recognized $138 and $137 of collaboration revenue for the three months ended September 30, 2013 and 2012, respectively, and $ 412 and $182 of collaboration revenue for the nine months ended September 30, 2013 and 2012, respectively. The remaining balance of $5,857 is recorded as deferred revenue at September 30, 2013.

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At inception of the agreement, the Company determined that the Oragenics ECC 1 Milestones are not substantive and cannot be recognized when earned in accordance with ASU 2010-17 as the Milestone Method substantive criteria discussed in Note 2 were not met. Royalties related to product sales will be recognized when earned as the payments relate directly to products that have been fully developed and for which the Company has satisfied all of its obligations.

Effective September 30, 2013, the Company entered into its second worldwide ECC with Oragenics (ECC 2). Under this ECC 2, at the transaction effective date, Oragenics received a license to the Company s technology platform to develop and commercialize probiotics, specifically the direct administration to humans of genetically modified probiotics for the treatment of diseases of the oral cavity, throat, sinus and esophagus as defined more specifically in the agreement. Upon execution of ECC 2, the Company received a technology access fee of 1,348,000 shares of Oragenics common stock valued at $3,503 and a $1,956 convertible promissory note maturing on or before December 31, 2013 as upfront consideration. Prior to the maturity date, Oragenics has the right to convert the promissory note into shares of Oragenics common stock subject to its shareholders approval. The conversion price is equal to the closing price of Oragenics common stock on the last trading day immediately prior to the date of conversion. The Company is entitled to receive additional shares of common stock, or at Oragenics option, receive a cash payment based upon the fair market value of the shares, upon the first instance of attainment of certain commercialization milestones of a product candidate developed from ECC 2 (Oragenics ECC 2 Milestones). The Oragenics ECC 2 Milestones include: (i) $2,000 within thirty days of the first instance of the achievement of the first dosing of a patient in a phase II clinical trial for an Oragenics product developed from ECC 2 (Oragenics ECC 2 Product); (ii) $5,000 within thirty days of the first instance of the achievement of the meeting of the primary endpoint in a phase III clinical trial for an Oragenics ECC 2 Product; and (iii) $10,000 within thirty days of the first instance of the achievement of the first to occur of (a) the first commercial sale of an Oragenics ECC 2 Product anywhere in the world, or (b) the regulatory approval for an Oragenics ECC 2 Product. The Company receives reimbursement payments for research and development services provided pursuant to the agreement during the ECC and manufacturing services for Company materials provided to Oragenics during ECC 2. Oragenics will pay the Company 10% of the net sales derived from the sale of products developed from ECC 2.

Oragenics is responsible for funding the further development of probiotics toward the goal of commercialization, conducting preclinical and clinical development of product candidates, as well as for other aspects of commercialization or manufacturing of the product candidates. The term of ECC 2 commenced on September 30, 2013 and continues until terminated pursuant to ECC 2. ECC 2 may be terminated by either party in the event of certain material breaches defined in the agreement and following full payment of the technology access fee may be terminated voluntarily by Oragenics upon 90 days written notice to the Company.

The Company identified the deliverables at the inception of ECC 2 which include the license to the Company s technology platform, participation on the JSC, the research and development

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services and any manufacturing services to be provided. The Company grouped the deliverables into two units of accounting based on the nature of the deliverables and the separation criteria: (i) the license to the Company s technology platform, the Company s participation on the JSC and research and development services to be provided (Oragenics ECC 2 Unit of Accounting 1), as these deliverables could not be separated, and (ii) any manufacturing services to be provided for any Company materials in an approved product from ECC 2 (Oragenics ECC 2 Unit of Accounting 2), which have standalone value and are contingent due to uncertainties on whether an approved product would be developed and require manufacturing by the Company. As VSOE and third party evidence of selling price was not available or practical, the BESP for each unit of accounting was determined using a historical cost approach due to the early stage of development of the Company s technology. In establishing BESP for Oragenics ECC 2 Unit of Accounting 1, the Company used the accumulated costs incurred as of ECC 2 by the Company on its technology platform licensed to Oragenics to approximate the cost to recreate the deliverables included in this unit of accounting. All upfront consideration was allocated to Oragenics ECC 2 Unit of Accounting 1. Oragenics ECC 2 Unit of Accounting 2 was determined to be a contingent deliverable at the inception of ECC 2 due to the uncertainties surrounding whether an approved product would be developed and require manufacturing by the Company and whether the Company would elect to be the manufacturer. The $5,459 of upfront consideration, which is recorded as deferred revenue as of September 30, 2013, was allocated to Oragenics ECC 2 Unit of Accounting 1 and will be recognized over the expected life of the Company s technology platform using a straight-line approach.

At inception of ECC 2, the Company determined that the Oragenics ECC 2 Milestones are not substantive and cannot be recognized when earned in accordance with ASU 2010-17 as the Milestone Method substantive criteria discussed in Note 2 were not met. Royalties related to product sales will be recognized when earned as the payments relate directly to products that have been fully developed and for which the Company has satisfied all of its obligations.

The Company recognizes the reimbursement payments received for research services in the period when the services are performed and collection is reasonably assured. The Company recognized $344 and $137 of collaboration revenue for research and development services performed in the three months ended September 30, 2013 and 2012, respectively and $1,057 and $137 in the nine months ended September 30, 2013 and 2012, respectively, of which $220 is included as related party receivables on the September 30, 2013 consolidated balance sheet.

Fibrocell Science, Inc. ECC

Effective October 5, 2012, the Company entered into an ECC with Fibrocell Science, Inc. (Fibrocell), a publicly traded, autologous cellular therapeutic company focused on the development of innovative products for aesthetic, medical and scientific applications. Under the ECC, at the transaction effective date, Fibrocell received a license to the Company s technology platform to develop and commercialize genetically modified and non-genetically modified autologous fibroblasts and autologous dermal cells in the United States of America. Upon

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execution of the ECC, the Company received a technology access fee of 1,317,520 shares of Fibrocell s common stock valued at $7,576 as upfront consideration. The number of shares received reflects a 1-for-25 reverse stock split of Fibrocell s common stock effective April 30, 2013. The Company receives reimbursement payments for research and development services provided pursuant to the agreement during the ECC and manufacturing services for Company materials provided to Fibrocell during the ECC. On a quarterly basis, Fibrocell will pay the Company royalties of 7% of net sales up to $25,000 and 14% of net sales above $25,000 on each product developed from the ECC. If Fibrocell uses the Company s technology platform to improve the production of a current or new Fibrocell products not developed from the ECC, Fibrocell will pay the Company a quarterly royalty equal to 33% of the cost of goods sold savings generated by the improvement. Fibrocell is responsible for conducting preclinical and clinical development of product candidates, as well as for other aspects of commercialization and manufacturing of the product candidates. The term of the ECC commenced on October 5, 2012 and continues until terminated pursuant to the ECC agreement. The ECC may be terminated by either party in the event of certain material breaches defined in the agreement and may be terminated voluntarily by Fibrocell upon 90 days written notice to the Company.

The Company identified the deliverables at the inception of the ECC which include the license to the Company s technology platform, participation on the JSC, the research and development services and any manufacturing services to be provided. The Company grouped the deliverables into two units of accounting based on the nature of the deliverables and the separation criteria: (i) the license to the Company s technology platform, the Company s participation on the JSC and research and development services to be provided (Fibrocell Unit of Accounting 1), as these deliverables could not be separated, and (ii) any manufacturing services to be provided for any Company materials in an approved product from the ECC (Fibrocell Unit of Accounting 2), which have standalone value and are contingent due to uncertainties on whether an approved product would be developed and require manufacturing by the Company. As VSOE and third party evidence of selling price was not available or practical, the BESP for each unit of accounting was determined using a historical cost approach due to the early stage of development of the Company s technology. In establishing BESP for Fibrocell Unit of Accounting 1, the Company used the accumulated costs incurred as of the ECC by the Company on its technology platform licensed to Fibrocell to approximate the cost to recreate the deliverables included in this unit of accounting. All upfront consideration was allocated to Fibrocell Unit of Accounting 1. Fibrocell Unit of Accounting 2 was determined to be a contingent deliverable at the inception of the ECC due to the uncertainties surrounding whether an approved product would be developed and require manufacturing by the Company and whether the Company would elect to be the manufacturer. The $7,576 of upfront consideration was allocated to Fibrocell Unit of Accounting 1 and will be recognized over the expected life of the Company s technology platform using a straight-line approach. The Company recognized $158 and $474 of collaboration revenue for the three and nine months ended September 30, 2013, respectively. The remaining balance of $6,944 is recorded as deferred revenue at September 30, 2013.

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Effective June 28, 2013, the Company entered into an amendment to the ECC with Fibrocell. The amendment expands the field of use defined in the ECC agreement. Under the terms of the amendment to the ECC, the Company received 1,243,781 shares of Fibrocell s common stock valued at $7,612 as a supplemental technology access fee, which is recorded as deferred revenue at September 30, 2013. These shares were received in July 2013. The Company allocated this additional consideration to Fibrocell Unit of Accounting 1 and will recognize it over the remaining expected life of the Company s technology platform using a straight-line approach. The Company recognized $169 of collaboration revenue for both the three and nine months ended September 30, 2013. The remaining balance of $7,443 is recorded as deferred revenue at September 30, 2013.

The Company recognizes the reimbursement payments received for research services in the period when the services are performed and collection is reasonably assured. The Company recognized $1,383 and $2,428 of collaboration revenue for research and development services performed in the three and nine months ended September 30, 2013, respectively, of which $1,041 is included as related party receivables on the September 30, 2013 consolidated balance sheet.

AmpliPhi ECC

Effective March 29, 2013, the Company entered into a worldwide ECC with AmpliPhi, a developer of bacteriophage-based antibacterial therapies to treat drug resistant infections. Under the ECC, at the transaction effective date, AmpliPhi received a license to the Company s technology platform to develop and commercialize new bacteriophage-based therapies to target specific antibiotic resistant infections as defined more specifically in the agreement. Upon execution of the ECC, the Company received a technology access fee of 24,000,000 shares of AmpliPhi s common stock valued at $2,400 as upfront consideration. The Company is entitled to additional consideration up to an aggregate amount of $7,500 per product payable either in cash or common stock at the option of AmpliPhi, upon the achievement of certain regulatory milestones (AmpliPhi Milestones). The Company receives reimbursement payments for research and development services provided pursuant to the agreement during the ECC and manufacturing services for Company materials provided to AmpliPhi during the ECC. On a quarterly basis, AmpliPhi will pay the Company royalties with percentages ranging from upper-single digits to lower-double digits of net sales of products developed under the ECC. AmpliPhi is responsible for conducting preclinical and clinical development of product candidates, as well as other aspects of commercialization and manufacturing of the product candidates. The term of the ECC commenced on March 29, 2013 and continues until terminated pursuant to the ECC agreement. The ECC may be terminated by either party in the event of certain material breaches defined the agreement and may be terminated voluntarily by AmpliPhi upon 90 days written notice to the Company.

The Company identified the deliverables at the inception of the ECC which include the license to the Company s technology platform, participation on the JSC, the research and development

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services and any manufacturing services to be provided. The Company grouped the deliverables into two units of accounting based on the nature of the deliverables and the separation criteria: (i) the license to the Company s technology platform, the Company s participation on the JSC and research and development services to be provided (AmpliPhi Unit of Accounting 1), as these deliverables could not be separated, and (ii) any manufacturing services to be provided for any Company materials in an approved product from the ECC (AmpliPhi Unit of Accounting 2), which have standalone value and are contingent due to uncertainties on whether an approved product would be developed and require manufacturing by the Company. As VSOE and third party evidence of selling price was not available or practical, the BESP for each unit of accounting was determined using a historical cost approach due to the early stage of development of the Company s technology. In establishing BESP for AmpliPhi Unit of Accounting 1, the Company used the accumulated costs incurred as of the ECC by the Company on its technology platform licensed to AmpliPhi to approximate the cost to recreate the deliverables included in this unit of accounting. All upfront consideration was allocated to AmpliPhi Unit of Accounting 1. AmpliPhi Unit of Accounting 2 was determined to be a contingent deliverable at the inception of the ECC due to the uncertainties surrounding whether an approved product would be developed and require manufacturing by the Company and whether the Company would elect to be the manufacturer. The $2,400 of upfront consideration was allocated to AmpliPhi Unit of Accounting 1 and will be recognized over the expected life of the Company s technology platform using a straight-line approach. The Company recognized $54 and $109 of collaboration revenue for the three and nine months ended September 30, 2013, respectively. The remaining balance of $2,291 is recorded as deferred revenue at September 30, 2013.

The Company recognizes the reimbursement payments received for research services as collaboration revenue in the period when the services are performed and collection is reasonably assured. The Company recognized $128 and $162 of collaboration revenue for research and development services performed in the three and nine months ended September 30, 2013, respectively, of which $67 is included as related party receivables on the September 30, 2013 consolidated balance sheet. At inception of the agreement, the Company determined that the AmpliPhi Milestones are not substantive and cannot be recognized when earned in accordance with ASU 2010-17 as the Milestone Method substantive criteria discussed in Note 2 were not met. Royalties related to product sales will be recognized when earned as the payments relate directly to products that have been fully developed and for which the Company has satisfied all of its obligations.

Genopaver ECC

Effective March 29, 2013, the Company entered into a worldwide ECC with Genopaver, a limited liability company formed by affiliates of Third Security, LLC (Note 14). Genopaver was formed for the purpose of entering into the ECC and developing and commercializing products in the field of the fermentative production of alkaloids through genetically modified cell-lines and substrate feeds for use as active pharmaceutical ingredients or as commercially sold intermediates in the manufacture of active pharmaceutical ingredients. Upon execution of the ECC, the Company

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received a technology access fee of $3,000 as upfront consideration. The Company receives reimbursement payments for research and development services provided pursuant to the agreement during the ECC. Genopaver will pay the Company a royalty as a percentage in the lower-double digits on the quarterly gross profits of product sales from products developed under the ECC. Genopaver is responsible for the development and commercialization of the product candidates. The term of the ECC commenced on March 29, 2013 and continues until terminated pursuant to the ECC agreement. The ECC may be terminated by either party in the event of certain material breaches defined in the agreement and may be terminated voluntarily by Genopaver upon 90 days written notice to the Company.

The Company identified the deliverables at the inception of the ECC which include the license to the Company s technology platform, participation on the JSC, and the research and development services to be provided. The Company grouped the deliverables into one unit of accounting based on the nature of the deliverables and the separation criteria: (i) the license to the Company s technology platform, the Company s participation on the JSC and research and development services to be provided (Genopaver Unit of Accounting), as the deliverables could not be separated. As VSOE and third party evidence of selling price was not available or practical, the BESP for each unit of accounting was determined using a historical cost approach due to the early stage of development of the Company s technology. In establishing BESP for Genopaver Unit of Accounting, the Company used the accumulated costs incurred as of the ECC by the Company on its technology platform licensed to Genopaver to approximate the cost to recreate the deliverables included in the unit of accounting. The $3,000 of upfront consideration was allocated to the Genopaver Unit of Accounting and will be recognized over the expected life of the Company s technology platform using a straight-line approach. The Company recognized $68 and $136 of collaboration revenue for the three and nine months ended September 30, 2013, respectively. The remaining balance of $2,864 is recorded as deferred revenue at September 30, 2013.

The Company recognizes the reimbursement payments received for research services as collaboration revenue in the period when the services are performed and collection is reasonably assured. The Company recognized $315 and $528 of collaboration revenue for research and development services performed in the three and nine months ended September 30, 2013, respectively, of which $241 is included as related party receivables on the September 30, 2013 consolidated balance sheet. Royalties related to product sales will be recognized when earned as the payments relate directly to products that have been fully developed and for which the Company has satisfied all of its obligations.

Soligenix ECC

Effective April 27, 2013, the Company entered into a worldwide ECC with Soligenix, Inc. (Soligenix), a clinical stage biopharmaceutical company focused on developing products to treat inflammatory diseases and biodefense countermeasures. Under the ECC, at the transaction effective date, Soligenix received a license to the Company s technology platform to develop and

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commercialize human monoclonal antibody therapies for the treatment of melioidosis. Upon execution of the ECC, the Company received a technology access fee of 1,034,483 shares of Soligenix s common stock valued at $1,331 as upfront consideration. The Company is entitled to additional consideration up to an aggregate amount of $7,000 per product payable either in cash or common stock at the option of Soligenix, upon the achievement of certain regulatory milestones (Soligenix Milestones). The Company receives reimbursement payments for research and development services and manufacturing services for Company materials provided to Soligenix during the term of the ECC. On a quarterly basis, Soligenix will pay the Company royalties with percentages ranging from upper-single digits to lower-double digits of net sales of products developed under the ECC. Soligenix is responsible for conducting preclinical and clinical development of product candidates, as well as other aspects of commercialization and manufacturing of the product candidates. The term of the ECC commenced on April 27, 2013 and continues until terminated pursuant to the ECC agreement. The ECC may be terminated by either party in the event of certain material breaches defined the agreement and may be terminated voluntarily by Soligenix upon 90 days written notice to the Company.

The Company identified the deliverables at the inception of the ECC which include the license to the Company s technology platform, participation on the JSC, the research and development services and any manufacturing services to be provided. The Company grouped the deliverables into two units of accounting based on the nature of the deliverables and the separation criteria: (i) the license to the Company s technology platform, the Company s participation on the JSC and research and development services to be provided (Soligenix Unit of Accounting 1), as these deliverables could not be separated, and (ii) any manufacturing services to be provided for any Company materials in an approved product from the ECC (Soligenix Unit of Accounting 2), which have standalone value and are contingent due to the uncertainty of whether an approved product would be developed and require manufacturing by the Company and whether the Company would elect to be the manufacturer. As VSOE and third party evidence of selling price was not available or practical, the BESP for each unit of accounting was determined using a historical cost approach due to the early stage of development of the Company s technology. In establishing BESP for Soligenix Unit of Accounting 1, the Company used the accumulated costs incurred as of the ECC by the Company on its technology platform licensed to Soligenix to approximate the cost to recreate the deliverables included in this unit of accounting. All upfront consideration was allocated to Soligenix Unit of Accounting 1. Soligenix Unit of Accounting 2 was determined to be a contingent deliverable at the inception of the ECC due to the uncertainty of whether an approved product would be developed and require manufacturing by the Company and whether the Company would elect to be the manufacturer. The $1,331 of upfront consideration was allocated to Soligenix Unit of Accounting 1 and will be recognized over the expected life of the Company s technology platform using a straight-line approach. The Company recognized $30 and $50 of collaboration revenue for the three and nine months ended September 30, 2013, respectively. The remaining balance of $1,281 is recorded as deferred revenue at September 30, 2013.

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The Company recognizes the reimbursement payments received for research services as collaboration revenue in the period when the services are performed and collection is reasonably assured. The Company recognized $13 of collaboration revenue for research and development services performed in the three and nine months ended September 30, 2013, all of which is included as related party receivables on the September 30, 2013 consolidated balance sheet. At inception of the agreement, the Company determined that the Soligenix Milestones are not substantive and cannot be recognized when earned in accordance with ASU 2010-17 as the Milestone Method substantive criteria discussed in Note 2 were not met. Royalties related to product sales will be recognized when earned as the payments relate directly to products that have been fully developed and for which the Company has satisfied all of its obligations.

AquaBounty ECC

On February 14, 2013, the Company entered into an ECC with AquaBounty. The Company will be reimbursed for research and development services as provided for in the ECC agreement. In the event of product sales from a product developed from the ECC, the Company will receive 16.66% of quarterly gross profits for each product. All revenues and expenses related to this ECC will be eliminated in consolidation (Note 6).

S & I Ophthalmic ECC

On September 30, 2013, the Company entered into a worldwide ECC with S & I Ophthalmic, the joint venture between the Company and Sun Pharmaceutical Subsidiary (Note 7). The ECC grants S & I Ophthalmic an exclusive worldwide license to the Company s technology platform to develop and commercialize therapies in humans for the treatment of ocular diseases defined more specifically in the agreement. The Company will be reimbursed for research and development services and manufacturing services as provided for in the ECC agreement. Subject to certain expense allocations, S & I Ophthalmic will pay the Company royalties with percentages ranging from mid-single digits and above of the net sales derived from the sale of products developed under the ECC.

4. Short-term and Long-term Investments

The Company s investments are classified as available-for-sale. The following table summarizes the amortized cost, gross unrealized gains and losses and fair value of available-for-sale investments as of September 30, 2013:

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Aggregate Fair Value
U.S. government debt securities	$ 205,747	$ 27	$ (6)	$ 205,768
Commercial paper	10,242	6	(1)	10,247
Certificates of deposit	1,768		(2)	1,766
Total	$ 217,757	$ 33	$ (9)	$ 217,781

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For more information on our method for determining the fair value of our assets, see Note 2 Fair Value of Financial Instruments .

The estimated fair value of available-for-sale investments classified by their contractual maturities as of September 30, 2013 was as follows:

Due within one year	$ 136,672
After one year through two years	81,109
Total	$ 217,781

Changes in market interest rates and bond yields cause certain of our investments to fall below their cost basis, resulting in unrealized losses on investments. As of September 30, 2013, we had unrealized losses of $9 related to investments that had a fair value of $73,144. The unrealized losses of the Company s investments were primarily a result of unfavorable changes in interest rates subsequent to the initial purchase of these investments and have been in a loss position for less than 12 months.

As of September 30, 2013, we did not consider any of our investments to be other-than-temporarily impaired. When evaluating our investments for other-than-temporary impairment, we review factors such as the length of time and extent to which fair value has been below its cost basis, the financial condition of the issuer, our ability and intent to hold the security and whether it is more likely than not that we will be required to sell the investment before recovery of its cost basis.

5. Fair Value Measurements

The carrying amount of cash and cash equivalents, receivables, prepaid expenses and other current assets, accounts payable, accrued compensation and benefits, other accrued liabilities, and related party payables approximate fair value due to the short maturity of these instruments.

The following table presents the placement in the fair value hierarchy of financial assets that are measured at fair value on a recurring basis, including the items for which the fair value option has been elected, at September 30, 2013:

	Quoted prices in active markets (level 1)	Significant other observable inputs (level 2)	Significant unobservable inputs (level 3)	September 30, 2013

Assets				
U.S. government debt securities (Note 4)	$	$ 205,768	$	$ 205,768
Commercial paper (Note 4)		10,247		10,247
Certificates of deposit (Note 4)		1,766		1,766
Equity securities (Note 3)	75,754	31,813		107,567
	$ 75,754	$ 249,594	$	$ 325,348

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The following table presents the placement in the fair value hierarchy of financial assets that are measured at fair value on a recurring basis, including the items for which the fair value option has been elected, at December 31, 2012:

	Quoted prices in active markets (level 1)	Significant other observable inputs (level 2)	Significant unobservable inputs (level 3)	December 31, 2012
Assets				
Certificates of deposit (Note 4)	$	$ 260	$	$ 260
Equity securities (Note 3)	72,988	10,128		83,116
	$ 72,988	$ 10,388	$	$ 83,376

There were no financial liabilities measured on a recurring basis at September 30, 2013 and December 31, 2012.

The method used to estimate the fair value of the Level 1 assets in the tables above is based on observable market data as these equity securities are publicly-traded. The method used to estimate the fair value of the Level 2 short-term investments in the tables above is based on professional pricing sources for identical or comparable instruments, rather than direct observations of quote prices in active markets. The method used to estimate the fair value of the Level 2 equity securities in the tables above is based on the quoted market price of the publicly-traded security, adjusted for a discount for lack of marketability.

There were no transfers between levels of the fair value hierarchy in the three and nine months ended September 30, 2013.

6. Investment in AquaBounty

On November 16, 2012, the Company acquired 48,631,444 shares of AquaBounty common stock, representing 47.56% of the then outstanding shares of AquaBounty, for $6,000 through a definitive purchase agreement with an existing AquaBounty shareholder and its affiliate. The carrying amount of the investment in AquaBounty was $5,726 at December 31, 2012. Based on closing quoted market prices (Level 1), the fair value of the investment in AquaBounty was approximately $14,300 at December 31, 2012.

On November 29, 2012, the Company entered into a promissory note purchase agreement (promissory note) with AquaBounty. The promissory note allows for the Company to loan up to $500 to AquaBounty. Draws on the promissory note by AquaBounty accrued annual interest of 3% and were set to mature no later than May 28, 2013. As of December 31, 2012, AquaBounty had drawn $200 on the promissory note. This outstanding balance plus accrued interest is included in related party receivables on the December 31, 2012 consolidated balance sheet. In

January and February 2013, AquaBounty borrowed additional installments of $200 and $100,

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respectively, on the promissory note. On March 15, 2013, AquaBounty repaid the $500 promissory note plus accrued interest in its entirety.

On March 15, 2013, the Company acquired 18,714,814 shares of AquaBounty for $4,907 in a private subscription offering, thereby increasing the Company s ownership in AquaBounty to 53.82%, resulting in the Company gaining control over AquaBounty, and began consolidating. Commencing on that date, the Company includes AquaBounty in its consolidated results of operations and financial position pursuant to the step acquisition guidance in ASC 805, *Business Combinations*. The Company recognized a gain of $7,415 to account for the difference between the carrying value and the fair value of the previously held 47.56% equity interest. The fair value of the consideration transferred included:

Consideration paid	$ 4,907
Fair value of noncontrolling interest	15,153
Fair value of the Company s investment in affiliate held before the business combination	12,751
Fair value of the consideration transferred	$ 32,811

The Company used the private subscription price to measure fair value of the Company s previously held investment and noncontrolling interest. The preliminary estimated fair value of assets acquired and liabilities assumed at the acquisition date is shown below:

Cash	$ 5,419
Short-term investments	14
Trade receivables	4
Other receivables	9
Prepaid expenses and other	200
Property, plant and equipment	1,241
Intangible assets	14,900
Other assets	22
Total assets acquired	21,809
Accounts payable	156
Accrued compensation and benefits	94
Other accrued liabilities	395
Long-term debt	2,199
Total liabilities assumed	2,844
Net assets acquired	18,965
Goodwill	13,846

Total consideration	$ 32,811

The fair value of assets acquired and liabilities assumed at the acquisition date are considered preliminary and is subject to revision when the valuation of intangible assets is finalized upon

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receipt of the final valuation report from a third party valuation expert. The preliminary fair value of acquired intangible assets was determined using the multi-period excess earnings method, a variation of the income approach. The multi-period excess earnings method estimates the value of an intangible asset equal to the present value of the incremental after-tax cash flows attributable to the intangible asset. The acquired intangible assets consist of in-process research and development until regulatory approval is obtained, at which point the intangible assets will be accounted for as definite lived intangible assets and amortized over the expected useful life of fifteen years. The goodwill consists of future revenue opportunities and the potential for expansion of AquaBounty products. The goodwill is not expected to be deductible for tax purposes. The fair value of assets acquired and liabilities assumed at the acquisition date are also subject to revision upon the Company s continued evaluation of the fair value of long term debt.

The results of operations of AquaBounty are included in the consolidated statement of operations beginning on the acquisition date. The following unaudited condensed pro forma financial information for the three months ended September 30, 2012 and the nine months ended September 30, 2013 and 2012 is presented as if the acquisition had been consummated on January 1, 2012:

	Three Months Ended September 30, 2012	Nine months Ended September 30, 2013	Nine months Ended September 30, 2012
		Pro forma	
Revenues	$ 2,904	$ 16,890	$ 7,269
Net loss	(21,483)	(35,742)	(46,858)
Net loss attributable to noncontrolling interest	459	1,496	1,541
Net loss attributable to Intrexon	(21,024)	(34,246)	(45,317)
Accretion of dividends on redeemable convertible preferred stock	(5,469)	(18,391)	(16,291)
Net loss attributable to Intrexon common shareholders	$ (26,493)	$ (52,637)	$ (61,608)
Net loss attributable to Intrexon common shareholders per share, basic and diluted	$ (4.75)	$ (2.39)	$ (11.19)

The pro forma net loss for the nine months ended September 30, 2013 excludes the $7.4 million non-recurring gain on remeasurement of the Company s previously held investment in AquaBounty. The pro forma net loss for the nine months ended September 30, 2012 includes this non-recurring gain on remeasurement.

7. Investment in S & I Ophthalmic

On September 30, 2013, the Company and Sun Pharmaceutical Subsidiary entered into a Limited Liability Company Agreement (Sun LLC Agreement) which governs the affairs and the conduct

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of business of S & I Ophthalmic, a joint venture to develop therapies for the treatment of ocular diseases. S & I Ophthalmic leverages experience and technology from both the Company and Sun Pharmaceutical. Both the Company and Sun Pharmaceutical Subsidiary made an initial capital contribution of $5,000 in October 2013 for a 50% membership interest in S & I Ophthalmic. In cases in which the board of managers of S & I Ophthalmic (S & I Board) determines that additional capital contributions are necessary in order for S & I Ophthalmic to conduct business and comply with its obligations under the ECC (Note 3), each of the Company and Sun Pharmaceutical Subsidiary have committed to making additional capital contributions to S&I Ophthalmic subject to certain limits defined in the agreement. Each has the right, but not the obligation, to make additional capital contributions above the defined limits when and if solicited by the S & I Board.

Beginning on the seventh anniversary of the effective date of the Sun LLC Agreement, and upon the second anniversary thereafter, the Company, as well as Sun Pharmaceutical Subsidiary, may make a cash offer to purchase all of the other s interest in S & I Ophthalmic. Upon receipt of such an offer, the other party must either agree to tender its interests at the offered price or submit a counteroffer at a price higher than the original offer. Such offer and counteroffer may continue until one party agrees to the other s price.

S & I Ophthalmic shall be governed by the S & I Board which shall have four members. We, as well as Sun Pharmaceutical Subsidiary, have the initial right to appoint two members to the S & I Board. For so long as Sun Pharmaceutical Subsidiary and/or any of its affiliates is a member of S & I Ophthalmic and holds a percentage interest in S & I Ophthalmic that is at least equal to the percentage held by the Company and/or its affiliates, Sun Pharmaceutical Subsidiary will have the sole authority to select and appoint on behalf of S & I Ophthalmic each of the representatives of the S & I Ophthalmic on the ECC committees, and one such appointee will be an Empowered Representative of the S & I Ophthalmic under the terms of the ECC with final authority to resolve certain ECC committee disputes.

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8. Property, Plant and Equipment, net

Property, plant and equipment consist of the following:

	September 30, 2013	December 31, 2012
Land	$ 55	$
Building	945	
Furniture and fixtures	869	857
Lab equipment	22,044	22,195
Leasehold improvements	5,149	4,972
Computer hardware	3,220	3,136
Construction in progress	10	14
Software	1,003	888
	33,295	32,062
Less: Accumulated depreciation and amortization	(16,275)	(13,375)
Property, plant and equipment, net	$ 17,020	$ 18,687

Depreciation expense was $1,058 and $1,308 for the three months ended September 30, 2013 and 2012, respectively, and $3,318 and $3,706 for the nine months ended September 30, 2013 and 2012, respectively.

9. Goodwill and Intangible Assets, net

The changes in the carrying amount of goodwill for the nine months ended September 30, 2013 are as follows:

Balance as of December 31, 2012	$
Acquisitions	13,846
Balance as of September 30, 2013	$ 13,846

No goodwill or accumulated impairment losses existed as of December 31, 2012. There are no accumulated impairment losses as of September 30, 2013.

Intangible assets consist of the following at September 30, 2013:

	Gross Carrying Amount	Accumulated Amortization	Net
Patents and related technologies	$ 34,342	$ (6,979)	$ 27,363
In-process research and development	14,900		14,900
Total	$ 49,242	$ (6,979)	$ 42,263

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Intangible assets consist of the following at December 31, 2012:

	Gross Carrying Amount	Accumulated Amortization	Net
Patents and related technologies	$ 34,342	$ (4,851)	$ 29,491
Favorable rent asset	646	(631)	15
Total	$ 34,988	$ (5,482)	$ 29,506

Amortization expense was $709 and $756 for the three months ended September 30, 2013 and 2012, respectively, and $2,143 and $2,270 for the nine months ended September 30, 2013 and 2012, respectively. At September 30, 2013, the weighted average useful life for patents and related technology was 12.4 years.

10. Income Taxes

There is no income tax benefit recognized for the three months ended September 30, 2013 and 2012 and for the nine months ended September 30, 2013 and 2012 due to the Company s history of net losses combined with an inability to confirm recovery of the tax benefits of the Company s losses and other net deferred tax assets. In assessing the realizability of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities, projected future taxable income and tax planning strategies in making this assessment. Due to the Company s history of net losses incurred from inception, no income tax benefit has been recorded and the corresponding deferred tax assets have been fully reserved as the Company cannot sufficiently be assured that these deferred tax assets will be realized.

At September 30, 2013, the Company has loss carryforwards for federal income tax purposes of approximately $235,100 available to offset future taxable income and federal and state research and development tax credits of approximately $6,600, prior to consideration of annual limitations that may be imposed under Section 382. These carryforwards will begin to expire in 2022.

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11. Redeemable Convertible Preferred Stock and Shareholders Equity (Deficit)

The tables below represent a rollforward of the Redeemable Convertible Preferred Stock:

	Series A redeemable convertible preferred stock		Series B redeemable convertible preferred stock		Series B-1 redeemable convertible preferred stock	
	Shares	Amount	Shares	Amount	Shares	Amount
Balances at December 31, 2012	705,400	$ 1,358	694,000	$ 669	1,212,360	$ 1,360
Issuance of shares						
Accretion of dividends		52		19		37
Stock issuance costs						
Conversion to common stock	(705,400)	(1,410)	(694,000)	(688)	(1,212,360)	(1,397)
Settlement of fractional shares upon conversion to common stock						
Balances at September 30, 2013		$		$		$

	Series C redeemable convertible preferred stock		Series C-1 redeemable convertible preferred stock		Series C-2 redeemable convertible preferred stock	
	Shares	Amount	Shares	Amount	Shares	Amount
Balances at December 31, 2012	4,546,360	$ 7,134	15,934,528	$ 34,201	18,617,020	$ 44,512
Issuance of shares						
Accretion of dividends		266		1,272		1,660
Stock issuance costs						
Conversion to common stock	(4,546,360)	(7,400)	(15,934,528)	(35,473)	(18,617,020)	(46,172)
Settlement of fractional shares upon conversion to common stock						
Balances at September 30, 2013		$		$		$

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	Series C-3 redeemable convertible preferred stock		Series D redeemable convertible preferred stock		Series E redeemable convertible preferred stock	
	Shares	Amount	Shares	Amount	Shares	Amount
Balances at December 31, 2012	13,297,872	$ 29,770	19,803,685	$ 76,252	38,095,239	$ 211,403
Issuance of shares						
Accretion of dividends		1,103		2,827		7,931
Stock issuance costs						
Conversion to common stock	(13,297,872)	(30,873)	(19,803,685)	(79,078)	(38,095,239)	(219,332)
Settlement of fractional shares upon conversion to common stock				(1)		(2)
Balances at September 30, 2013		$		$		$

	Series F redeemable convertible preferred stock	
	Shares	Amount
Balances at December 31, 2012		$
Issuance of shares	19,047,619	150,000
Accretion of dividends		3,224
Stock issuance costs		(3,148)
Conversion to common stock	(19,047,619)	(150,075)
Settlement of fractional shares upon conversion to common stock		(1)
Balances at September 30, 2013		$

The Series F Redeemable Convertible Preferred Stock (Series F), Series E Redeemable Convertible Preferred Stock (Series E), Series D Redeemable Convertible Preferred Stock (Series D), Series C-3 Redeemable Convertible Preferred Stock (Series C-3), Series C-2 Redeemable Convertible Preferred Stock (Series C-2), Series C-1 Redeemable Convertible Preferred Stock (Series C-1), Series C Redeemable Convertible Preferred Stock (Series C), Series B-1 Redeemable Convertible Preferred Stock (Series B-1), Series B Redeemable Convertible Preferred Stock (Series B) and Series A Redeemable Convertible Preferred Stock (Series A) collectively are referred to as the Series Preferred .

Upon closing of the IPO on August 13, 2013, per the terms of the Series Preferred, all Series Preferred shares, including $68,850 of accrued but unpaid dividends thereon, automatically converted into 79,705,130 shares of common stock. Prior to conversion, the Series Preferred had optional redemption provisions whereby after May 25, 2016, but prior to the occurrence of a qualified IPO, the holders of greater than

three-fourths of then issued and outstanding shares of

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the Series F, Series E, Series D, Series C-3, Series C-2, Series C-1 and Series C, voting as a separate class, could have elected by written notice to require the Company to redeem all of the then issued and outstanding shares of Series F, Series E, Series D, Series C-3, Series C-2, Series C-1 and Series C at an amount equal to the stated price adjusted for any stock dividends, combination or splits plus all accrued but unpaid dividends. Upon receipt of such written notice, the Company must notify the holders of the Series B-1, Series B and Series A of the redemption notice, upon which the holders of each of those classes could have required the Company to redeem all of the then issued and outstanding shares of such class. As a result of this optional redemption provision, the Company accreted changes in the redemption value from the date of issuance of all Series Preferred shares with a resultant change to additional paid-in capital or accumulated deficit in the absence of additional paid-in capital. As of December 31, 2012, $50,549 of cumulative dividends had been accreted to the redemption price for Series Preferred on the Company s consolidated balance sheet.

12. Stock Option Plans

Intrexon Stock Option Plan

The Company records the fair value of stock options issued to employees and non-employees as of the grant date as stock-based compensation expense. Stock-based compensation expense for employees and non-employees is recognized over the requisite service period, which is typically the vesting period. Stock-based compensation cost that has been included in research and development expenses and general and administrative expenses amounted to $52 and $566, respectively, for the three months ended September 30, 2013, and $197 and $242, respectively, for the three months ended September 30, 2012. Stock-based compensation cost that has been included in research and development expenses and general and administrative expenses amounted to $402 and $1,411, respectively, for the nine months ended September 30, 2013, and $264 and $695, respectively, for the nine months ended September 30, 2012.

On April 18, 2008, the Company adopted the 2008 Equity Incentive Plan (the 2008 Plan) for employees and nonemployees pursuant to which the Company s board of directors may grant share based awards to officers, key employees and nonemployees. During 2011, the 2008 Plan was amended to increase the number of authorized awards under the 2008 plan from 2,857,142 to 5,714,285. Awards issued pursuant to the Company s 2004 Stock Option Plan, the 2004 Stock Option Plan for Nonemployees and the 2006 Stock Option Plan were consolidated into the 2008 Plan and are subject to, and administered under the terms of the 2008 Plan. Upon the effectiveness of the 2013 Omnibus Incentive Plan (the 2013 Plan), no new awards may be granted under the 2008 Plan. As of September 30, 2013, there are 2,637,117 awards outstanding under the 2008 Plan.

On July 26, 2013, the Company s shareholders and board of directors approved the adoption of the 2013 Plan for employees and nonemployees pursuant to which the Company s board of directors may grant share based awards to employees, officers, consultants, advisors and nonemployee directors. The 2013 Plan became effective upon the closing of the IPO and replaces

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the 2008 Plan. There are 7,000,000 shares of common stock reserved for issuance under the 2013 Plan. As of September 30, 2013, there are 60,500 awards outstanding under the 2013 Plan.

Stock option activity under the Company s award plans during the period indicated is as follows:

	Number of shares	Weighted average exercise price	Weighted average remaining contractual term
Balances at December 31, 2012	2,313,526	$ 5.90	7.87
Granted	764,209	11.07	
Exercised	(17,649)	(3.10)	
Forfeited	(325,604)	(6.94)	
Expired	(36,865)	(5.15)	
Balances at September 30, 2013	2,697,617	7.26	7.68
Vested at September 30, 2013	992,112	4.67	5.79
Vested and Expected to Vest at September 30, 2013(1)	2,434,816	6.20	6.91

(1) The number of stock options expected to vest takes into account an estimate of expected forfeitures.

Total unrecognized compensation costs related to nonvested awards at September 30, 2013 and December 31, 2012 were $5,523 and $4,910, respectively, and are expected to be recognized over a weighted-average period of approximately three years.

The Company currently uses authorized and unissued shares to satisfy share award exercises.

AquaBounty Stock Option Plan

The AquaBounty 2006 Equity Incentive Plan (the AquaBounty Plan) provides for the issuance of incentive stock options to employees of AquaBounty and non-qualified stock options and awards of restricted and direct stock purchases to its directors, officers, employees and

consultants of AquaBounty. Unless otherwise indicated, options issued to employees, directors and non-employees are vested over one to three years and are exercisable for a term of ten years from the date of issuance. As of September 30, 2013, there were 6,624,000 options outstanding under the AquaBounty Plan at a weighted average exercise price of $0.25 per share of which 5,552,000 were exercisable. Stock based compensation cost for the three months ended and nine months ended September 30, 2013 amounted to $27 and $28, respectively, and is included in general and administrative expenses.

13. Commitments and Contingencies

Operating Leases

The Company leases its facilities and certain equipment under noncancelable operating leases. The equipment leases are renewable at the option of the Company. At September 30, 2013,

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future minimum lease payments under noncancelable operating leases having initial or remaining noncancelable lease terms in excess of one year are as follows:

2013	$ 784
2014	3,290
2015	2,956
2016	2,341
2017	1,419
2018	72
	$ 10,862

Rent expense, including other facility expenses, was $1,272 and $1,255 in the three months ended September 30, 2013 and 2012, respectively, and $4,284 and $3,739 in the nine months ended September 30, 2013 and 2012, respectively.

During 2012, the Company subleased space in two of its facilities to two different entities, one of which is an affiliate of certain holders of preferred stock. One of these agreements was terminated during 2012. The second agreement remained in effect as of September 30, 2013. Rental income under sublease agreements was $91 and $0 for the three months ended September 30, 2013 and 2012, respectively, and $274 and $64 for the nine months ended September 30, 2013 and 2012, respectively. Future rental income for the sublease agreement in effect at September 30, 2013 is $91 for 2013, $365 for 2014, and $152 for 2015.

Research and Development

The Company has commitments with third parties in connection with research and development collaborations. See Note 2 for further discussion.

Long Term Debt

In January 2009, the Atlantic Canada Opportunities Agency (ACOA), a Canadian government agency, awarded AquaBounty a grant to provide funding of a research and development project. The total amount available under the award is C$2,872, or USD$2,785 as of September 30, 2013, which AquaBounty can claim over a five year period. All amounts claimed by AquaBounty must be repaid in the form of a 10% royalty on any products commercialized out of this research and development project until fully paid. The timing of repayment is uncertain. As of September 30, 2013, the total amount claimed by AquaBounty is $2,305 and is included in long term debt on the September 30, 2013 consolidated balance sheet.

In October 2003, AquaBounty obtained a term loan with the ACOA in the amount of C$250, or USD$242 as of September 30, 2013. AquaBounty repays this loan through monthly principal payments and the loan matures in December 2013. The outstanding balance as of September 30, 2013 is $7 and is included in the current portion of long term debt on the September 30, 2013 consolidated balance sheet.

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Notes to Consolidated Financial Statements

(Unaudited)

(Amounts in thousands, except share and per share data)

In August 2003, AquaBounty obtained a term loan with Enterprise PEI, a Canadian provincial government agency, in the amount of C$300, or USD$291 as of September 30, 2013. AquaBounty repays this loan through monthly principal and interest payments and the loan matures in December 2013. The outstanding balance as of September 30, 2013 is $10 and is included in the current portion of long term debt on the September 30, 2013 consolidated balance sheet.

In November 1999, Technology Partnership Canada (TPC), a Canadian government agency, agreed to provide AquaBounty funding up to C$2,965, or USD$2,875 as of September 30, 2013, to support AquaBounty s research and development. This funding was completed in 2003. The funding provided by TPC is repayable to TPC in the form of a 5.2% royalty on revenues generated from AquaBounty s technology. Per the funding agreement with TPC, AquaBounty has no repayment obligations after June 30, 2014 even if the total amount has not been repaid as of such date. As of September 30, 2013, the estimated balance to be paid by June 30, 2014 is $194 and is included in the current portion of long term debt on the September 30, 2013 consolidated balance sheet.

Contingencies

The Company may become subject to claims and assessments from time to time in the ordinary course of business. Such matters are subject to many uncertainties and outcomes are not predictable with assurance. The Company accrues liabilities for such matters when it is probable that future expenditures will be made and such expenditures can be reasonably estimated. As of September 30, 2013 and December 31, 2012, the Company does not believe that any such matters, individually or in the aggregate, will have a material adverse effect on the Company s business, financial condition, results of operations, or cash flows.

14. Related Party Transactions

Third Security, LLC (Third Security) and Affiliates

Certain affiliates of Third Security were shareholders of the Series B, B-1, C, C-1, C-2, C-3, D, E, and F Redeemable Convertible Preferred Stock, which converted to common stock upon completion of our IPO.

On June 6, 2011, the Company entered into a worldwide exclusive licensing agreement with Halozyme Therapeutics, Inc. (Halozyme) for the use of Halozyme s proprietary enzyme in one of the Company s targeted therapeutics. The Company and Halozyme are related parties through common ownership by affiliates of Third Security. The Company s CEO also serves on Halozyme s board of directors. Under the terms of the agreement, the Company paid a license fee of $9,000 upon execution of the agreement. The Company is required to pay an annual exclusivity fee of $1,000 commencing June 6, 2012 and on each anniversary of the effective date of the agreement thereafter until a certain development event occurs. If the Company successfully develops a product candidate using the license in the exclusive field of use and achieves an established sales target, the Company could pay up to $54 million in milestone payments. The Company is

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obligated to pay tiered royalties on net sales of the approved product. The Company may terminate this agreement in whole or on a product-by-product basis at any time upon 90 days written notice to Halozyme.

The Manager of Third Security who is also a member of the Company s Board of Directors, (Board Member) assumed the role of CEO of the Company in April 2009 and served on a part-time basis in that capacity through 2011. In 2012, the CEO began serving in this role on a full-time basis. Although the CEO has not received compensation for his services as CEO, the Company recorded $388 in compensation expense for each of the three months ended September 30, 2013 and 2012, respectively, and $1,163 for each of the nine months ended September 30, 2013 and 2012, respectively, based on the estimated salary and benefits appropriate for the role.

Transactions with Other Shareholders

At September 30, 2013 and December 31, 2012, the Company leased two office facilities from an affiliate of certain holders of preferred stock. The Company has a receivable due from this affiliate in the form of security deposits which are included in other long term assets of $66 at September 30, 2013 and December 31, 2012. During the three months ended September 30, 2013 and 2012, the Company incurred rent and other facility expenses of $233 and $228, respectively. During the nine months ended September 30, 2013 and 2012, the Company incurred rent and other facility expenses of $680 and $670, respectively.

In the nine months ended September 30, 2013, the Company paid transaction fees in conjunction with the closing of the first and second rounds of Series F to a shareholder.

Transactions with ECC Parties

On January 6, 2011, in conjunction with the ECC with Ziopharm (Note 3), the Company purchased 2,426,235 shares of common stock at $4.80 per share at closing in a private placement. The Company agreed to purchase up to an additional $50,000 of common stock in conjunction with securities offerings that may be conducted by Ziopharm in the future, subject to certain conditions and limitations. On February 7, 2011, the Company purchased 1,910,000 shares of Ziopharm common stock at $5.75 per share in the first such securities offering. On January 20, 2012, the Company purchased 1,923,075 shares of Ziopharm common stock at $5.20 per share in another securities offering. At September 30, 2013, the Company had approximately $29,000 remaining on its purchase commitment. In conjunction with the ECC and the initial share purchase, the CEO of the Company joined the board of directors of Ziopharm.

In conjunction with the ECC with Synthetic Biologics (Note 3), the Company is entitled to, at its election, purchase up to 19.99% of securities offerings that may be conducted by Synthetic Biologics in the future, subject to certain conditions and limitations. The Company has been granted the right to make purchases of Synthetic Biologics common stock in the open market up

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Intrexon Corporation and Subsidiaries

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(Amounts in thousands, except share and per share data)

to an additional 10% of Synthetic Biologics common stock. The Company has made no purchases of Synthetic Biologics common stock.

In conjunction with the ECC with Oragenics (Note 3), the Company is entitled to, at its election, purchase up to 30% of securities offerings that may be conducted by Oragenics in the future, subject to certain conditions and limitations. The Company has made no purchases of Oragenics common stock under this right. On September 30, 2013, the Company purchased 1,300,000 shares of Oragenics common stock at $3.00 per share in a private transaction.

In conjunction with the ECC with Soligenix (Note 3), the Company is entitled to, at its election, participate in securities offerings conducted by Soligenix in the future, subject to certain conditions and limitations. The Company has made no purchases of Soligenix s common stock.

15. Net Income (Loss) per Share

The following table presents the computation of basic and diluted net income (loss) per share for the three months ended September 30, 2013 and 2012 and the nine months ended September 30, 2013 and 2012 and the unaudited pro forma basic and diluted net loss per share for the nine months ended September 30, 2013:

	Three months ended September 30,		Nine months ended September 30,	
	2013	**2012**	**2013**	**2012**
Historical net income (loss) per share:				
Numerator:				
Net income (loss) attributable to Intrexon	$ 15,440	$ (20,490)	$ (26,776)	$ (50,937)
Accretion of dividends on redeemable convertible preferred stock	(4,044)	(5,469)	(18,391)	(16,291)
Undistributed earnings allocated to preferred shareholders	(3,106)			
Net income (loss) attributable to common shareholders	$ 8,290	$ (25,959)	$ (45,167)	$ (67,228)
Denominator:				
Weighted average shares outstanding, basic	54,305,354	5,576,526	22,056,396	5,506,043
Weighted average effect of dilutive stock options and warrants	1,845,642			
Weighted average shares outstanding, diluted	56,150,996	5,576,526	22,056,396	5,506,043
Net income (loss) attributable to common shareholders per share, basic	$ 0.15	$ (4.66)	$ (2.05)	$ (12.21)
Net income (loss) attributable to common shareholders per share, diluted	$ 0.15	$ (4.66)	$ (2.05)	$ (12.21)
Pro forma net loss per share (unaudited):				
Numerator:				
Net loss attributable to Intrexon used to compute pro forma net loss per share, basic and diluted			$ (26,776)	
Denominator:				
			83,738,320	

Weighted average shares outstanding used in computing pro forma net loss per share, basic and diluted		
Pro forma net loss attributable to Intrexon per share, basic and diluted	$	(0.32)

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Intrexon Corporation and Subsidiaries

Notes to Consolidated Financial Statements

(Unaudited)

(Amounts in thousands, except share and per share data)

The following potentially dilutive securities have been excluded from the computations of diluted weighted average shares outstanding as of September 30, 2013 and 2012 for the three months ended September 30, 2012 and the nine months ended September 30, 2013 and 2012, as they would have been anti-dilutive:

	2013	September 30, 2012
Common shares issuable upon conversion of all Series Preferred		61,796,890
Options	2,697,617	2,412,575
Warrants	414,404	511,098
Total	3,112,021	64,720,563

In addition to the potentially dilutive securities in the table above, Series Preferred cumulative dividends convertible into common shares at a price per share equal to the fair market value of a common share at the time of conversion have been excluded from the computation of diluted weighted-average shares outstanding as of September 30, 2012.

The Company excluded 60,500 stock options from the computation of diluted weighted average shares outstanding as of September 30, 2013 for the three months ended September 30, 2013 as they would have been anti-dilutive.

16. Subsequent Events

On October 1, 2013, the Company purchased 2,439,024 shares of Fibrocell common stock at a price per share of $4.10 in a public offering conducted by Fibrocell.

On October 29, 2013, the Company purchased 2,857,143 shares of Ziopharm common stock at a price per share of $3.50 in a public offering conducted by Ziopharm.

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GT Life Sciences, Inc.

Financial Statements

October 5, 2011

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Report of Independent Auditors

To the Board of Directors of Intrexon Corporation:

We have audited the accompanying balance sheet of GT Life Sciences, Inc. as of October 5, 2011, and the related statements of operations, of stockholders equity and of cash flows for the period from January 1, 2011 to October 5, 2011. These financial statements are the responsibility of the Company s management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of GT Life Sciences, Inc. at October 5, 2011, and the results of its operations and its cash flows for the period then ended in conformity with accounting principles generally accepted in the United States of America.

/s/ PricewaterhouseCoopers LLP

Charlotte, North Carolina

May 10, 2013

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GT Life Sciences, Inc.

Balance Sheet

Period ended October 5, 2011

Assets	
Current assets	
Cash	$ 21,693
Grant receivable	63,203
Related party note receivable	33,486
Income tax receivable	97,346
Total current assets	215,728
Property and equipment, net	138,070
Total assets	$ 353,798
Liabilities	
Current liabilities	
Accounts payable	$ 54,698
Accrued expenses	213,447
Total liabilities	268,145
Commitments and contingencies (Note 8)	
Stockholders Equity	
Common stock, $0.001 par value, 15,000,000 shares authorized, 11,197,768 shares issued and outstanding	11,197
Additional paid-in capital	615,136
Accumulated deficit	(540,680)
Total stockholders equity	85,653
Total liabilities and stockholders equity	$ 353,798

The accompanying notes are an integral part of these financial statements.

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GT Life Sciences, Inc.

Statement of Operations

Period ended October 5, 2011

	Period ended October 5, 2011
Revenues	
Research and development services	$ 173,077
Research grant revenues	667,326
Total revenues	840,403
Costs and expenses	
Research and development	738,037
Selling, general, and administrative	1,117,991
Total costs and expenses	1,856,028
Loss from operations	(1,015,625)
Other	
Interest income	486
Net loss before provision for income taxes	(1,015,139)
Income tax benefit	144,826
Net loss	$ (870,313)

The accompanying notes are an integral part of these financial statements.

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GT Life Sciences, Inc.

Statement of Stockholders Equity

Period ended October 5, 2011

	Common stock		Additional paid-in capital	Retained earnings (Accumulated deficit)	Total stockholders equity
	Shares	Amount			
Balances as of December 31, 2010	10,083,435	$ 10,083	$ 59,167	$ 329,633	$ 398,883
Exercise of common stock options	1,114,333	1,114	32,316		33,430
Share-based compensation expense			223,653		223,653
Contribution in conjunction with merger			300,000		300,000
Net loss				(870,313)	(870,313)
Balances as of October 05, 2011	11,197,768	$ 11,197	$ 615,136	$ (540,680)	$ 85,653

The accompanying notes are an integral part of these financial statements.

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GT Life Sciences, Inc.

Statement of Cash Flows

Period ended October 5, 2011

	Period ended October 5, 2011
Cash flows from operating activities	
Net loss	$ (870,313)
Adjustment to reconcile net loss to net cash used in operating activities	
Depreciation	41,798
Noncash interest income (Note 9)	(486)
Share-based compensation expense	223,653
Deferred income taxes (Note 7)	(48,280)
Changes in operating assets and liabilities	
Prepaid expenses and other assets	13,682
Grant receivable	105,106
Income tax receivable	(97,346)
Accounts payable	9,305
Accrued expenses	(36,891)
Net cash used in operating activities	(659,772)
Cash flows from investing activities	
Purchases of property and equipment	(4,496)
Net cash used in investing activities	(4,496)
Cash flows from financing activities	
Proceeds from exercise of stock options	430
Proceeds from non-refundable deposits received in conjunction with the merger (Note 1)	300,000
Net cash provided by financing activities	300,430
Net decrease in cash	(363,838)
Cash	
Beginning of this year	385,531
End of the year	$ 21,693
Supplemental disclosure of cash flow information	
Cash paid for income taxes	$ 123,493
Significant noncash financing and investing activities	
Related party note receivable issued for option exercise (Note 9)	$ 33,000

The accompanying notes are an integral part of these financial statements.

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GT Life Sciences, Inc.

Notes to Financial Statements

Period ended October 05, 2011

1. Description of business and significant accounting policies

GT Life Sciences, Inc. (the Company or GT) was incorporated as a Delaware corporation on July 2, 2007. The Company was formed as a spin out company of Genomatica, Inc. (Genomatica) to independently and exclusively pursue life science applications of Genomatica s technology and software platform. GT is a privately held biotechnology company that utilizes a platform in silico modeling of cellular processes that integrates tightly with experimental technologies to drive the discovery and design of new products and processes for the life sciences field. The company uses its platform to provide research and development modeling services to third parties and enter into exclusive and non-exclusive licensing arrangements.

On October 5, 2011, Intrexon Corporation (Intrexon), a privately held synthetic biology company, acquired 100% of the outstanding common stock of the company by merging an Intrexon wholly-owned subsidiary with and into the Company. The Company received non-refundable deposits from Intrexon of $300,000 prior to the execution of the merger agreement.

Business Risks

The Company faces risks associated with companies whose products are in development. These risks include, among others, the Company s need for additional financing to complete its research and development, achieving key technical milestones, defending intellectual property rights, and dependence on key members of management.

Basis of Presentation

These financial statements are prepared in U.S. dollars and are prepared under accounting principles generally accepted in the United States of America. The Company has evaluated subsequent events through May 10, 2013, the date at which the financial statements were available to be issued.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash

At certain times during the period, the Company held bank deposits in excess of federally insured limits.

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GT Life Sciences, Inc.

Notes to Financial Statements

Period ended October 05, 2011

Property and Equipment

Property and equipment are recorded at cost and depreciated using the straight-line method over their estimated useful lives. The costs of maintenance and repairs are expensed as incurred. Improvements and betterments that add new functionality or extend the useful life of the asset are capitalized.

Long-lived assets, such as property and equipment, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, then an impairment charge is recognized for the amount by which the carrying value of the asset exceeds the fair value of the asset. There have been no events or changes in circumstances in the period ended October 5, 2011, which would indicate that any of the Company s assets have been impaired.

Intellectual Property

The Company s intellectual property consists primarily of licensed technology and patent rights. The Company files patent applications to protect technology, inventions, and improvements that are considered important to its business. The costs of filing, prosecuting, and maintaining internally developed patents are expensed as general and administrative costs as incurred. The costs of intangible assets that are acquired for use in a particular research and development project and have no alternative future uses are expensed as research and development costs as incurred.

Revenue Recognition

The Company s revenue consists of payments received from grant awards and research and development contract support. The Company records research and development service revenue when the services are performed and collection is reasonably assured. During the period ended October 5, 2011, the Company recorded $173,077 of revenue for research and development services provided to third parties. The Company accounts for the grant revenue on a cost incurred basis in accordance with the terms of the grants. Any of the funding sources may, at its discretion, request reimbursement for expense or return of funds, or both, as a result of noncompliance by the Company with the terms of the grant. During the period ended October 5, 2011, the Company recognized $667,326 in federal funding under a grant with National Institutes of Health.

Research and Development Expenses

Research and development expenses include all direct costs and indirect costs associated with the development of the Company s products and services. These expenses include personnel costs, consulting fees, and payments to third parties for provision of research and development services. These costs are charged to expense as incurred.

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GT Life Sciences, Inc.

Notes to Financial Statements

Period ended October 05, 2011

Share-based Compensation

Employees

The Company applies the fair value method of accounting for share-based compensation which requires all such compensation to employees, including the grant of employee stock options, to be recognized in the income statement based on its fair value at the measurement date (generally the grant date). Fair value of the common stock was determined by management. The expense associated with share-based compensation is recognized on a straight-line basis over the service period of each award.

Nonemployees

For share-based compensation granted to nonemployees, the measurement date is generally considered to be the date when all services have been rendered or the date that options are fully vested.

During the period ending October 5, 2011, the Company recorded $223,653 in share-based compensation expense.

Determining the appropriate fair value model and the related assumptions requires judgment. The fair value of each option grant is estimated using a Black-Scholes option-pricing model on the date of grant. No options were granted during 2011.

Due to limited historical data, the Company estimates stock price volatility based on the actual volatility of comparable publicly traded companies over the expected life of the option. The expected term represents the average time that options that vest are expected to be outstanding. The Company does not have sufficient history of exercise of stock options to estimate the expected term of employee stock options and thus continues to calculate expected life based on the mid-point between the vesting date and the contractual term which is in accordance with the simplified method. The expected term for share-based compensation granted to nonemployees is the contractual life. The risk-free rate is based on the United States Treasury yield curve during the expected life of the option.

Income Taxes

Deferred tax assets and liabilities are determined based on the temporary differences between the financial statement carrying amounts and the tax basis of assets and liabilities using the enacted tax rates in effect in the years in which the differences are expected to reverse. In estimating future tax consequences, all expected future events are considered other than enactment of changes in the tax law or rates.

The Company recognizes the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities based

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GT Life Sciences, Inc.

Notes to Financial Statements

Period ended October 05, 2011

on the technical merits of the position. The tax benefits recognized in the financial statements from such a position should be measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement.

The determination of recording or releasing income tax valuation allowance is made, in part, pursuant to an assessment performed by management regarding the likelihood that the Company will generate future taxable income against which benefits of its deferred tax assets may or may not be realized. This assessment requires management to exercise significant judgment and make estimates with respect to its ability to generate taxable income in future periods.

2. Comprehensive Loss

For the period ended October 5, 2011, the comprehensive loss was equal to the net loss; therefore, a separate statement of comprehensive loss is not included in the accompanying financial statements.

3. Property and Equipment

Property and equipment consists of the following:

	Estimated useful life (in years)	October 05, 2011
Lab equipment	5	$ 213,613
Computer hardware and software	3	41,519
Less: Accumulated depreciation		(117,062)
Property and equipment, net		$ 138,070

Depreciation expense for the period ended October 5, 2011 was $41,798.

4. Accrued Expenses

Major categories of accrued expenses as of October 5, 2011 are summarized below:

Payroll and related costs	$ 29,285
Professional fees	7,660
Merger transaction costs	176,502
Total accrued expenses	$ 213,447

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GT Life Sciences, Inc.

Notes to Financial Statements

Period ended October 05, 2011

5. Stockholders Equity

Capital Structure

Authorized Shares

The Company is authorized to issue up to 15,000,000 shares of its capital stock. The authorized stock is designated as 15,000,000 shares of common stock at a par value of $0.001 per share. The Company reserves a number of shares of unissued common stock sufficient to effect the exercise of all outstanding options to purchase the Company s common stock.

Common Stock

Issuance of Stock

During the period ended October 5, 2011, the Company issued 1,114,333 shares of common stock through the exercise of stock options at exercise prices of $0.03 per share, receiving proceeds of $430 and issued a related party note receivable for $33,000 (Note 9).

6. Stock Option Plan

During 2007, the Company adopted the 2007 Equity Incentive Plan (the Plan). The total number of shares authorized under the Plan as of October 5, 2011, was 6,100,000. Of this amount, 3,220,000 shares are available for future grants as of October 5, 2011. Eligible participants include employees, directors and consultants. The Plan permits the granting of incentive stock options and nonstatutory stock options. The terms of the agreements are determined by the Company s Board of Directors. The Company s awards vest based on the terms in the agreements and generally vest over four years and have a term of ten years. As of October 5, 2011, all awards are fully vested due to a change in control (Note 1).

The following summarizes the award activity for the period ending October 5, 2011:

	Available for grants	Grants outstanding	Weighted-average exercise price
Balances as of December 31, 2010	2,080,000	4,020,000	$ 0.03
Options granted in 2011			$
Options cancelled in 2011	25,667	(25,667)	$ 0.03
Exercised in 2011	1,114,333	(1,114,333)	$ 0.03
Balances as of October 5, 2011	3,220,000	2,880,000	$ 0.03

The options exercised during 2011 had no intrinsic value.

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GT Life Sciences, Inc.

Notes to Financial Statements

Period ended October 05, 2011

The following summarizes certain information about stock options vested and expected to vest as of October 5, 2011:

	Number of options	Weighted-average remaining contractual life (in years)	Weighted-average exercise price
Outstanding	2,880,000	0	$ 0.03
Exercisable	2,880,000	0	$ 0.03

The following table summarizes certain information about all stock options outstanding as of October 5, 2011:

Exercise price	Number of options	Weighted-average remaining contractual life (in years)	Number of options exercisable
$ 0.03	2,880,000	0	2,880,000

On October 5, 2011, $120,475 of total unrecognized compensation cost related to unvested stock options was recorded due to acceleration of vesting required for a change in control (Note 1).

As of October 5, 2011, the total fair value and intrinsic value of vested shares was $2,851,200 and $2,764,800 respectively.

7. Income Taxes

The components of income tax expense / (benefit) as of October 5, 2011 are as follows:

Current expense	
Federal	$ (97,346)
State	800
Total current expense/(benefit)	(96,546)
Deferred expense	
Federal	(37,566)

State	(10,714)
Total deferred expense/(benefit)	(48,280)
Total income tax expense/(benefit)	$ (144,826)

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GT Life Sciences, Inc.

Notes to Financial Statements

Period ended October 05, 2011

The Company s total deferred tax assets and deferred tax liability as of October 5, 2011 are as follows:

Deferred tax assets	
Accrued expenses	$ 13,045
Net operating loss carryforwards	916,370
Research and development tax credits	77,515
Less: valuation allowance	(953,566)
Net deferred tax assets	53,364
Deferred tax liability	
Property and equipment	53,364
Total net deferred tax assets	$

Taxes computed at the statutory federal income tax rate of 34% are reconciled to the provision (benefit) for income taxes as follows:

	Amount
Income tax benefit at statutory rate	$ (345,147)
State taxes (net of federal benefit)	(183,081)
Stock-based compensation	(696,308)
Federal research and development tax credit	(45,770)
Other, net	171,914
Change in valuation allowance	953,566
Income tax benefit	$ (144,826)

The Company has established a valuation allowance against its deferred tax assets due to the uncertainty surrounding the realization of such assets.

As of October 5, 2011, the Company has net operating loss carryforwards of $2.25 million available to offset future federal and state taxable income which begin to expire in 2031 for federal and state tax purposes.

The Tax Reform Act of 1986 contains provisions which limit the ability to utilize the net operating loss carryforwards in the case of certain events including significant changes in ownership interests. If the Company s net operating loss carryforwards are limited and the Company has taxable income which exceeds the permissible yearly net operating loss carryforward, the Company would incur a federal income tax liability even though net operating loss carryforwards would be available in future years.

The Company adopted the provisions of ASC 740-10 related to uncertain tax positions effective January 1, 2009. The Company determined that no liability related to unrecognized tax benefits was required as of January 1, 2009. As of October 5, 2011, the Company continues to have no unrecognized tax benefits. The Company does not reasonably expect any change to the amount of unrecognized tax benefits within the next twelve months.

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GT Life Sciences, Inc.

Notes to Financial Statements

Period ended October 05, 2011

The Company recognizes interest and penalties related to uncertain tax positions in the provision for income taxes. As of the date of adoption and as of October 5, 2011, the Company had no interest or penalties related to uncertain tax positions.

The 2009 through 2011 tax years of the Company are open to examination by federal tax and state tax authorities. The Company has not been informed by any tax authorities for any jurisdiction that any of its tax years is under examination as of October 5, 2011.

8. Commitments

Leases

The Company leases its facility from Genomatica, a related party, on a month to month basis. During the period ended October 5, 2011, the Company paid approximately $3,660 per month.

9. Related Party Transactions

During the period ended October 5, 2011, the Company issued a note receivable to an officer. As of October 5, 2011, the note receivable had a principal balance of $33,000 and accrued interest of $486 (Note 1).

During the period ended October 5, 2011, the Company rented facilities and obtained shared services from Genomatica for a total cost of $50,411 (Note 8).

10. Subsequent Events

Other than the Company s merger discussed in Note 1, there have been no subsequent events.

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Immunologix, Inc.

Financial Statements

October 20, 2011

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Report of Independent Auditors

To the Board of Directors of Intrexon Corporation:

We have audited the accompanying balance sheet of Immunologix, Inc. as of October 20, 2011, and the related statement of operations, of stockholders deficit and of cash flows for the period from January 1, 2011 to October 20, 2011. These financial statements are the responsibility of the Company s management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Immunologix, Inc. at October 20, 2011, and the results of its operations and its cash flows for the period then ended in conformity with accounting principles generally accepted in the United States of America.

/s/ PricewaterhouseCoopers LLP

Charlotte, North Carolina

May 10, 2013

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Immunologix, Inc.

Balance Sheet

Period ended October 20, 2011

Assets	
Current assets	
Cash and cash equivalents	$ 19,451
Prepaid expenses and other assets	6,249
Total current assets	25,700
Property and equipment, net	139,719
Total assets	$ 165,419
Liabilities	
Current liabilities	
Accounts payable	$ 87,399
Accrued expenses	269,070
Current portion of capital lease obligation (Note 9)	18,711
Total current liabilities	375,180
Capital lease obligation, net of current portion (Note 9)	56,637
Total liabilities	431,817
Commitments and contingencies (Note 9)	
Series A convertible preferred stock, $0.001 par value, 1,099,721 shares authorized, issued and outstanding (liquidation value $4,378,270) (Note 6)	4,357,582
Series B convertible preferred stock, $0.001 par value, 1,025,000 shares authorized, 228,135 shares issued and outstanding (liquidation value $931,077) (Note 6)	926,835
Stockholders Deficit	
Common stock, $0.001 par value, 10,000,000 shares authorized, 2,700,502 shares issued and outstanding	2,701
Accumulated deficit	(5,553,516)
Total stockholders deficit	(5,550,815)
Total liabilities, convertible preferred stock, and stockholders deficit	$ 165,419

The accompanying notes are an integral part of these financial statements.

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Immunologix, Inc.

Statement of Operations

Period ended October 20, 2011

	Period ended October 20, 2011
Revenues	
License revenue	$ 35,000
Research grant revenue	100,000
Total revenues	135,000
Costs and Expenses	
Research and development	440,475
Selling, general, and administrative	734,919
License royalties	4,167
Total costs and expenses	1,179,561
Loss from operations	(1,044,561)
Other	
Interest income	692
Interest expense	(6,096)
Total other	(5,404)
Net loss	$ (1,049,965)

The accompanying notes are an integral part of these financial statements.

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Immunologix, Inc.

Statement of Stockholders Deficit

Period ended October 20, 2011

	Common stock		Additional paid-in	Accumulated	Total stockholders
	Shares	**Amount**	**capital**	**deficit**	**deficit**
Balances as of December 31, 2010	2,656,780	$ 2,657	$ 77,996	$ (683,147)	$ (602,494)
Exercise of common stock options	11,100	11	1,654		1,665
Share-based compensation expense			45,723		45,723
Issuance of common stock for services and license	32,622	33	4,861		4,894
Accretion to redemption value on convertible preferred stock			(130,234)	(3,820,404)	(3,950,638)
Net loss				(1,049,965)	(1,049,965)
Balances as of October 20, 2011	2,700,502	$ 2,701	$	$ (5,553,516)	$ (5,550,815)

The accompanying notes are an integral part of these financial statements.

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Immunologix, Inc.

Statement of Cash Flows

Period ended October 20, 2011

	Period ended October 20, 2011
Cash flows from operating activities	
Net loss	$ (1,049,965)
Adjustment to reconcile net loss to net cash used in operating activities	
Depreciation	28,087
Share-based compensation expense	45,723
Common stock issued for services and license	4,894
Changes in operating assets and liabilities	
Prepaid expenses and other assets	(1,250)
Grants receivable	244,479
Accounts payable	11,297
Accrued expenses	182,591
Net cash used in operating activities	(534,144)
Cash flows from investing activities	
Purchases of property and equipment	(22,120)
Net cash used in investing activities	(22,120)
Cash flows from financing activities	
Repayments of capital lease (Note 9)	(14,389)
Proceeds from issuance of Series B convertible preferred stock (Note 6)	250,948
Payments of stock issuance costs	(4,242)
Proceeds from exercise of stock options	1,665
Net cash provided by financing activities	233,982
Net decrease in cash and cash equivalents	(322,282)
Cash and cash equivalents	
Beginning of this year	341,733
End of the year	$ 19,451
Supplemental disclosure of cash flow information	
Cash paid during the period for interest	$ 6,096
Significant noncash financing and investing activities	
Accretion to redemption value on convertible preferred stock	$ 3,950,638

The accompanying notes are an integral part of these financial statements.

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Immunologix, Inc.

Notes to Financial Statements

Period ended October 20, 2011

1. Description of Business and Significant Accounting Policies

Immunologix, Inc. (the Company or IMX) was incorporated as a Delaware corporation on September 25, 2008. The Company is founded on a proprietary method of converting naïve B-cells to fully mature human antibodies targeting any antigen.

On October 21, 2011, Intrexon Corporation (Intrexon), a privately held synthetic biology company, acquired 100% of the outstanding preferred and common stock of the company by merging an Intrexon wholly-owned subsidiary with and into the Company.

Business Risks

The Company faces risks associated with companies whose products are in development. These risks include, among others, the Company s need for additional financing to complete its research and development, achieving key technical milestones, defending intellectual property rights, and dependence on key members of management.

Basis of Presentation

These financial statements are prepared in U.S. dollars and are prepared under accounting principles generally accepted in the United States of America. The Company has evaluated subsequent events through May 10, 2013, the date at which the financial statements were available to be issued.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents

The Company considers all highly liquid investments that have maturities of three months or less when acquired to be cash equivalents. At certain times during the period, the Company held bank deposits in excess of federally insured limits.

Property and Equipment

Property and equipment are recorded at cost and depreciated using the straight-line method over their estimated useful lives. The costs of maintenance and repairs are expensed as incurred. Improvements and betterments that add new functionality or extend the useful life of the asset are capitalized.

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Immunologix, Inc.

Notes to Financial Statements

Period ended October 20, 2011

Long-lived assets, such as property and equipment, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, then an impairment charge is recognized for the amount by which the carrying value of the asset exceeds the fair value of the asset. There have been no events or changes in circumstances during the period ended October 20, 2011, which would indicate that any of the Company s assets have been impaired.

Intellectual Property

The Company s intellectual property consists primarily of licensed technology and patent rights. The Company files patent applications to protect technology, inventions, and improvements that are considered important to its business. The costs of filing, prosecuting, and maintaining internally developed patents are expensed as general and administrative costs as incurred. The costs of intangible assets that are acquired for use in a particular research and development project and have no alternative future uses are expensed as research and development costs as incurred.

Revenue Recognition

The Company s revenue consists primarily of payments received from grant awards and payments received from license agreements. The Company accounts for the grant revenue on a cost incurred basis in accordance with the terms of the grants. Any of the funding sources may, at its discretion, request reimbursement for expense or return of funds, or both, as a result of noncompliance by the Company with the terms of the grant. During the period ended October 20, 2011, the Company recognized $100,000 in federal funding under the University Startup Assistance Program with South Carolina Research Authority (SCRA).

The Company accounts for license agreements when there is evidence of an arrangement, the fee is fixed or determinable and collection is reasonably assured. The amount of revenue recognized at any time is limited to the amounts that have become due under the terms of the agreement.

Research and Development Expenses

Research and development expenses include all direct costs and indirect costs associated with the development of the Company s biopharmaceutical products. These expenses include personnel costs, consulting fees, and payments to third parties for provision of research, development, and manufacturing services. These costs are charged to expense as incurred.

Share-based Compensation

Employees

The Company applies the fair value method of accounting for share-based compensation which requires all such compensation to employees, including the grant of employee stock options, to be recognized in the income statement based on its fair value at the measurement date (generally the

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Immunologix, Inc.

Notes to Financial Statements

Period ended October 20, 2011

grant date). Fair value of the common stock was determined by management. The expense associated with share-based compensation is recognized on a straight-line basis over the service period of each award. The Company uses authorized and unissued shares to satisfy share award exercises.

Nonemployees

For share-based compensation granted to nonemployees the measurement date is generally considered to be the date when all services have been rendered or the date that options are fully vested.

During the period ending October 20, 2011, the Company recorded $45,723 in share-based compensation expense.

Determining the appropriate fair value model and the related assumptions requires judgment. The fair value of each option grant is estimated using a Black-Scholes option-pricing model on the date of grant as follows as of October 20, 2011:

Estimated dividend yield	0.00%
Expected stock price volatility	93.19%
Risk-free interest rate	1.43%
Expected life of options (years)	5.64
Weighted-average fair value per share	$ 0.66

Due to limited historical data, the Company estimates stock price volatility based on the actual volatility of comparable publicly traded companies over the expected life of the option. The expected term represents the average time that options that vest are expected to be outstanding. The Company does not have sufficient history of exercise of stock options to estimate the expected term of employee stock options and thus continues to calculate expected life based on the mid-point between the vesting date and the contractual term which is in accordance with the simplified method. The expected term for share-based compensation granted to nonemployees is the contractual life. The risk-free rate is based on the United States Treasury yield curve during the expected life of the option.

Income Taxes

Deferred tax assets and liabilities are determined based on the temporary differences between the financial statement carrying amounts and the tax basis of assets and liabilities using the enacted tax rates in effect in the years in which the differences are expected to reverse. In estimating future tax consequences, all expected future events are considered other than enactment of changes in the tax law or rates.

The Company recognizes the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities based on the technical merits of the position. The tax benefits recognized in the financial statements

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Immunologix, Inc.

Notes to Financial Statements

Period ended October 20, 2011

from such a position should be measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement.

The determination of recording or releasing income tax valuation allowance is made, in part, pursuant to an assessment performed by management regarding the likelihood that the Company will generate future taxable income against which benefits of its deferred tax assets may or may not be realized. This assessment requires management to exercise significant judgment and make estimates with respect to its ability to generate taxable income in future periods.

2. Comprehensive Loss

For the period ended October 20, 2011, the comprehensive loss was equal to the net loss; therefore, a separate statement of comprehensive loss is not included in the accompanying financial statements.

3. Property and Equipment

Property and equipment consists of the following:

	Estimated useful life (in years)	October 20, 2011
Lab equipment	5	$ 187,061
Less: Accumulated depreciation		(47,342)
Property and equipment, net		$ 139,719

Depreciation expense for the period ended October 20, 2011 was $28,087.

4. Accrued Expenses

Major categories of accrued expenses as of October 20, 2011 are summarized below:

Payroll and related costs	$ 76,296
Merger Transaction costs	192,774
Total accrued expenses	$ 269,070

5. Significant Agreements

License agreement

On March 10, 2010, the Company entered into a license agreement (the License) with MUSC Foundation for Research Development (the Foundation). The License allows the Company to develop and commercialize certain patent rights relating to methods of discovery of human monoclonal antibodies and compositions of matter thereof. The Company incurred fees and

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Immunologix, Inc.

Notes to Financial Statements

Period ended October 20, 2011

patent costs of $4,167 to the Foundation during the period ended October 20, 2011 for the License. All license fees have been recorded as research and development expense in these financial statements.

The License requires the Company to reimburse the Foundation for the maintenance of U.S. and foreign patent rights. The Corporate License is a worldwide sublicenseable agreement and remains in full effect for the life of the last-to-expire patents included in the patent rights, which is approximately ten years. The License requires Foundation approval for certain sublicenses and minimum royalties of at least 0.5% to the Foundation to be included in the sublicense agreements.

The License requirements include that the Company raise $200,000 in grant, debt and/or equity financing by the first anniversary of the License, and an additional $200,000 by the second anniversary; establish and maintain a scientific advisory board; enter a laboratory lease; complete a pilot run of licensed method within nine months; and execute at least 15 contracts for the provision of services or grant of rights within five years.

During the term of the License, the Company must pay all fees and costs relating to the filing, prosecution and maintenance of the patent rights. The Company did not incur any patent legal fees related to this license from the effective date through October 20, 2011 other than those included in the reimbursement amount paid to the Foundation above.

The Company has issued 483,402 shares of common stock to the Foundation, representing 12% of the Company s then issued and outstanding capital stock. Additional shares are required to be issued to maintain the 12% ownership until the Company raised $3,000,000 of equity capital. In accordance with the anti-dilution provision, the Company issued 32,622 additional shares of common stock in 2011. The fair value of the 483,402 shares of common stock issued to the Foundation of $72,510 was recorded as research and development expense.

The License may be terminated by the Foundation if the Company fails to meet certain milestones within specified timeframes. As of October 20, 2011, the Company was in compliance with its obligations.

The Company is required to use commercially-reasonable efforts to develop three specified products or processes and introduce them into commercial markets. The Foundation will earn a royalty equal to a specified percentage of net sales, subject to the following minimum annual royalties starting on the first anniversary of the license agreement (March 10th of each year):

	Minimum royalty
First anniversary	$ 25,000
Second anniversary	$ 75,000
Third anniversary	$ 200,000
Fourth anniversary	$ 400,000
Fifth anniversary and each anniversary thereafter	$ 750,000

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Immunologix, Inc.

Notes to Financial Statements

Period ended October 20, 2011

Sales of licensed products or services since the effective date through October 20, 2011 have not met a level which would exceed the minimum royalty.

The terms of the License were renegotiated and amended in conjunction with the Company s merger.

6. Convertible Preferred Stock

The table below represents a rollforward of the Convertible Preferred Stock:

	Series A convertible preferred stock		Series B convertible preferred stock	
	Shares	Amount	Shares	Amount
Balances as of December 31, 2010	1,099,721	$ 1,087,073		$
Issuance of Series B Convertible Preferred Stock			228,135	250,948
Stock issuance costs				(4,242)
Accretion to redemption value on convertible preferred stock		3,270,509		680,129
Balances as of October 20, 2011	1,099,721	$ 4,357,582	228,135	$ 926,835

The Company reserves a number of shares of unissued common stock sufficient to effect the conversion of its issued and outstanding shares of convertible preferred stock.

Preferred Stock

Series A Convertible Preferred Stock (the Series A)

Dividends

The holders of the Series A are entitled to receive noncumulative cash dividends, on each issued and outstanding share of Series A when and as declared by the Board of Directors. Any declared but unpaid dividends are payable upon a Liquidation Event or conversion of the applicable shares of preferred stock to common stock. No dividends have been declared on the Series A, and there were no declared but unpaid dividends on Series A as of October 20, 2011.

Voting rights

The holders of the Series A are entitled to a number of votes equal to the number of shares of common stock into which their shares can be converted. Together with the holders of the common stock, the holders of the Series A, voting together as a single class, are entitled to elect two members of the Board of Directors.

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Immunologix, Inc.

Notes to Financial Statements

Period ended October 20, 2011

Liquidation preference

In the event of a liquidation, dissolution, or winding up of the Company, or in the event the Company merges with or is acquired by another entity, the holders of the Series A are entitled to be paid an amount equal to $1.00 per share, plus any declared but unpaid dividends. Once the preceding liquidation preferences have been paid, any remaining assets would be distributed pro rata among the holders of the Series A and common stock.

Conversion

At any time at the option of the holder, each share of Series A is convertible into one share of common stock, subject to certain antidilution adjustments. In the event of an initial public offering of at least $25,000,000 or the vote of at least a majority of the outstanding holders of Series A, the Series A will be automatically converted.

Protective Provisions

Approval of holders of at least a majority of the preferred stock is required for certain significant corporate actions.

Series B Convertible Preferred Stock (the Series B)

Dividends

The holders of the Series B are entitled to receive noncumulative cash dividends, on each issued and outstanding share of Series B when and as declared by the Board of Directors. Any declared but unpaid dividends are payable upon a Liquidation Event or conversion of the applicable shares of preferred stock to common stock. No dividends have been declared on the Series B, and there were no declared but unpaid dividends on Series B as of October 20, 2011.

Voting rights

The holders of the Series B are entitled to a number of votes equal to the number of shares of common stock into which their shares can be converted. Together with the holders of the common stock, the holders of the Series A, the holders of Series B voting together as a single class, are entitled to elect two members of the Board of Directors.

Liquidation preference

In the event of a liquidation, dissolution, or winding up of the Company, or in the event the Company merges with or is acquired by another entity, the holders of the Series B are entitled to be paid an amount equal to $1.10 per share, plus any declared but unpaid dividends. Once the preceding liquidation preferences have been paid, any remaining assets would be distributed pro rata among the holders of the Series A, Series B, and common stock.

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Immunologix, Inc.

Notes to Financial Statements

Period ended October 20, 2011

Conversion

At any time at the option of the holder, each share of Series B is convertible into one share of common stock, subject to certain antidilution adjustments. In the event of an initial public offering of at least $25,000,000 or the vote of at least a majority of the outstanding holders of Series B, the Series B will be automatically converted.

Protective Provisions

Approval of holders of at least a majority of the preferred stock is required for certain significant corporate actions.

As discussed in Note 1, the Company was acquired by Intrexon on October 21, 2011. This acquisition is considered a deemed liquidation event requiring redemption. As the Company deemed that this liquidation event was probable to occur on October 20, 2011, the Company accreted the Series A and Series B values to the respective redemption values as of October 20, 2011.

7. Stock Option Plan

During 2010, the Company adopted the 2010 Stock Plan (the Plan). The total number of shares authorized under the Plan as of October 20, 2011 was 200,000. Of this amount, 51,120 shares are available for future grants as of October 20, 2011. Eligible participants include employees, directors and consultants. The Plan permits the granting of incentive stock options, nonstatutory stock options, stock awards, and stock purchase rights. The terms of the agreements are determined by the Company s Board of Directors. The Company s awards vest based on the terms in the agreements and generally vest over four years and have a term of ten years. As of October 20, 2011 all awards are fully vested and approximately $45,723 of total unrecognized compensation cost related to unvested stock options was recorded due to a change in control (Note 1).

The following summarizes the award activity for the period ending October 20, 2011:

	Available for grants	Grants outstanding	Weighted-average exercise price
Balances as of December 31, 2010	51,120	124,080	$ .15
Options granted in 2011	(1,000)	1,000	$ .15
Options cancelled in 2011	1,000	(1,000)	$ .15
Exercised in 2011		(11,100)	$ .15
Balances as of October 20, 2011	51,120	112,980	$ .15

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Immunologix, Inc.

Notes to Financial Statements

Period ended October 20, 2011

The following summarizes certain information about stock options vested and expected to vest as of October 20, 2011:

	Number of options	Weighted-average remaining contractual life (in years)	Weighted-average exercise price
Outstanding	112,980	0	$ 0.15
Exercisable	112,980	0	$ 0.15

The following table summarizes certain information about all stock options outstanding as of October 20, 2011:

Exercise Price	Number of options	Weighted-average remaining contractual life (in years)	Number of options exercisable
$ 0.15	112,080	0	112,080

As of October 20, 2011, the total fair value and intrinsic value of vested shares was $338,940 and $321,993 respectively.

8. Income Taxes

There is no income tax benefit recognized for the period ended October 20, 2011 due to the Company s history of net losses combined with an inability to confirm recovery of the tax benefits of the Company s losses and other net deferred tax assets. Income tax benefit for the period ended October 20, 2011 differed from amounts computed by applying the applicable U.S. federal corporate income tax rate of 34% to loss before income taxes as a result of the following:

Income tax benefit at statutory rate	$ (356,988)
State taxes (net of federal benefit)	(36,899)
Stock-based compensation	(93,933)
Research and development tax credits	(22,381)
Other, net	70,753
Change in valuation allowance	439,448
Total income tax provision	$

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Immunologix, Inc.

Notes to Financial Statements

Period ended October 20, 2011

The tax effects of temporary differences that comprise the deferred tax assets as of October 20, 2011 are as follows:

Property and equipment	$ 715
Intangible assets	56,952
Net operating loss carryforwards	601,968
Federal and state research and development tax credits	36,344
Total deferred tax assets	695,979
Less: valuation allowance	(695,979)
Net deferred tax assets	$

The Company has established a valuation allowance against its deferred tax assets due to the uncertainty surrounding the realization of such assets. The valuation allowance increased by $439,448 during the period ended October 20, 2011.

As of October 20, 2011, the Company has net operating loss carryforwards of approximately $1.6 million and federal and state research and development tax credits of $36,344 available to offset future federal and state taxable income which begin to expire in 2030. If the Company s net operating loss carryforwards are limited and the Company has taxable income which exceeds the permissible yearly net operating loss carryforward, the Company would incur a federal income tax liability even though net operating loss carryforwards would be available in future years.

The Company adopted the provisions of ASC 740-10 related to uncertain tax positions effective January 1, 2009. The Company determined that no liability related to unrecognized tax benefits was required as of January 1, 2009. As of October 20, 2011, the Company continues to have no unrecognized tax benefits. The Company does not reasonably expect any change to the amount of unrecognized tax benefits within the next twelve months.

The Company recognizes interest and penalties related to uncertain tax positions in the provision for income taxes. As of the date of adoption and as of October 20, 2011, the Company had no interest or penalties related to uncertain tax positions.

Tax years from 2008 and forward are open to examination by federal tax and state tax authorities. The Company has not been informed by any tax authorities for any jurisdiction that any of its tax years is under examination as of October 20, 2011.

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Immunologix, Inc.

Notes to Financial Statements

Period ended October 20, 2011

9. Commitments

Leases

In 2010, the Company entered into leases for office and laboratory space in Charleston, South Carolina (the Lease) from SCRA (a shareholder) and certain other office equipment under operating leases. The Company also leases lab equipment under capital leases. Future minimum lease payments under the above lease agreements in the aggregate for the period from October 21, 2011 through December 31, 2011, and years remaining beginning January 1, 2012:

	Operating leases	Capital leases
Remaining in 2011	$ 6,486	$ 4,097
2012	8,166	24,583
2013	2,016	24,583
2014	2,016	24,583
2015	1,680	10,243
	$ 20,364	88,089
Less: Amounts representing interest (9%)		(12,741)
Total obligation under capital leases		75,348
Less: Current portion of obligation under capital leases		(18,711)
Long-term obligation under capital leases		$ 56,637

The Company incurred rent expense of approximately $30,750 in the period ended October 20, 2011 on the noncancelable operating leases.

The equipment under capital leases had a cost of $99,040 and accumulated depreciation of $24,760 as of October 20, 2011. Depreciation expense on these capital leases for the period ended October 20, 2011 was $15,944.

Employment contracts

In 2010, the Company entered into employment contracts with three officers that provide for severance and continuation of benefits in the event of termination by the Company without cause or by the employee for good reason, both as defined in the agreement, upon execution of a release.

10. Related party transactions

During the period ended October 20, 2011, the Company had consulting agreements with three shareholders for a total expense of approximately $6,250 payable in cash. As of October 20, 2011, all expenses had been paid.

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Immunologix, Inc.

Notes to Financial Statements

Period ended October 20, 2011

During the period ended October 20, 2011, the Company issued 32,622 shares of common stock to the Foundation, at no cost, subject to stock agreements. The Company recorded $4,894 in expense based on a fair value of $0.15 per share.

11. Subsequent events

Other than the Company s merger discussed in Note 1, there have been no subsequent events.

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ZIOPHARM Oncology, Inc.

(a development stage enterprise)

Financial Statements

December 31, 2012 and 2011

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of

ZIOPHARM Oncology, Inc.

Boston, Massachusetts

We have audited the accompanying balance sheets of ZIOPHARM Oncology, Inc. (a development stage company) as of December 31, 2012 and 2011, and the related statements of operations, changes in preferred stock and stockholders equity (deficit), and cash flows for each of the three years in the period ended December 31, 2012 and for the period from inception from September 9, 2003 (date of inception) through December 31, 2012. These financial statements are the responsibility of the Company s management. Our responsibility is to express an opinion on these financial statements based on our audits. The financial statements for the period from September 9, 2003 (date of inception) to December 31, 2009 were audited by other auditors and our opinion, insofar as it relates to cumulative amounts included for such periods, is based solely on the reports of such other auditors.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, based on our audits and the reports of other auditors, the financial statements referred to above present fairly, in all material respects, the financial position of ZIOPHARM Oncology, Inc. as of December 31, 2012 and 2011, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2012, and from September 9, 2003 (date of inception) through December 31, 2012, in conformity with U.S. generally accepted accounting principles.

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the annual financial statements, the Company has incurred recurring losses from operations which raises substantial doubt about its ability to continue as a going concern. Management s plans in regard to these matters are also described in Note 1 to the financial statements. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ McGladrey LLP

Boston, Massachusetts

March 18, 2013

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of

ZIOPHARM Oncology, Inc.

Boston, Massachusetts

We have audited the statements of operations, changes in preferred stock and stockholders equity (deficit) and cash flows of ZIOPHARM Oncology, Inc. (a development stage company) for the period from September 9, 2003 (date of inception) through December 31, 2009 (not separately presented herein). These financial statements are the responsibility of the Company s management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, audits of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the company s internal control over financial reporting. Accordingly, we express no such opinion. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the results of operations of ZIOPHARM Oncology, Inc. and its cash flows from September 9, 2003 (date of inception) through December 31, 2009 (not separately presented herein) in conformity with accounting principles generally accepted in the United States of America.

/s/ Caturano and Company, P.C.

Boston, Massachusetts

March 17, 2010

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

Balance Sheets

(in thousands, except share and per share data)

	December 31, 2012	December 31, 2011
ASSETS		
Current assets:		
Cash and cash equivalents	$ 73,306	$ 104,713
Receivables	58	79
Prepaid expenses and other current assets	6,912	1,313
Total current assets	80,276	106,105
Property and equipment, net	1,994	1,141
Deposits	133	91
Other non current assets	1,001	771
Total assets	$ 83,404	$ 108,108
LIABILITIES AND STOCKHOLDERS EQUITY		
Current liabilities:		
Accounts payable	$ 1,509	$ 1,727
Accrued expenses	16,516	10,821
Deferred revenue current portion	800	800
Deferred rent current portion	39	15
Total current liabilities	18,864	13,363
Deferred revenue	2,733	3,533
Deferred rent	400	180
Warrant liabilities	12,962	19,425
Total liabilities	34,959	36,501
Commitments and contingencies (note 8)		
Stockholders equity:		
Common stock, $0.001 par value; 250,000,000 shares authorized; 83,236,840 and 69,206,044 shares issued and outstanding at December 31, 2012 and 2011, respectively	83	69
Preferred stock, $0.001 par value; 30,000,000 shares authorized and no shares issued and outstanding		
Additional paid-in capital common stock	325,177	246,519
Additional paid-in capital warrants issued	6,909	12,611
Deficit accumulated during the development stage	(283,724)	(187,592)
Total stockholders equity	48,445	71,607
Total liabilities and stockholders equity	$ 83,404	$ 108,108

The accompanying notes are an integral part of these financial statements.

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

Statements of Operations

(in thousands, except share and per share data)

	For the year ended December 31,			Period from September 9, 2003 (date of inception) through December 31, 2012
	2012	2011	2010	
Revenue	$ 800	$ 667	$	$ 1,467
Operating expenses:				
Research and development	83,446	57,083	12,910	212,345
General and administrative	19,523	14,984	11,636	88,318
Total operating expenses	102,969	72,067	24,546	300,663
Loss from operations	(102,169)	(71,400)	(24,546)	(299,196)
Other income, net	(13)	39	765	4,701
Change in fair value of warrants	6,050	7,583	(8,889)	10,771
Net loss	$ (96,132)	$ (63,778)	$ (32,670)	$ (283,724)
Basic and diluted net loss per share	$ (1.22)	$ (0.97)	$ (0.71)	
Weighted average common shares outstanding used to compute basic and diluted net loss per share	78,546,112	66,003,789	46,003,996	

The accompanying notes are an integral part of these financial statements.

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

Statements of Changes in Preferred Stock

and Stockholders Equity (Deficit)

For the Period September 9, 2003 (date of inception) to December 31, 2012

(in thousands, except share and per share data)

	Preferred stock and warrants					Stockholder s equity (deficit)			
	Series A preferred stock		Warrants to purchase Series A preferred stock	Common stock		Additional paid-in capital common stock	Additional paid-in capital warrants	Deficit accumulated during the development stage	Total stockholders equity/ (deficit)
	Shares	Amount	Warrants	Shares	Amount				
Stockholders contribution, September 9, 2003	$	$		250,487	$	$ 500	$	$	$ 500
Net loss								(160)	(160)
Balance at December 31, 2003				250,487		500		(160)	340
Issuance of common stock				2,254,389	2	4,498			4,500
Issuance of common stock for services				256,749	1	438			439
Fair value of options/warrants issued for nonemployee services						13	251		264
Net loss								(5,687)	(5,687)
Balance at December 31, 2004				2,761,625	3	5,449	251	(5,847)	(144)

The accompanying notes are an integral part of these financial statements.

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

Statements of Changes in Convertible Preferred Stock and Stockholders Equity (Deficit) (Cont.)

For the Period September 9, 2003 (date of inception) to December 31, 2012

(in thousands, except share and per share data)

	Convertible preferred stock and warrants					Stockholder s equity (deficit)			
	Series A convertible preferred stock		Warrants to purchase series A convertible preferred stock	Common stock		Additional paid-in capital common stock	Additional paid-in capital warrants	Deficit accumulated during the development stage	Total stockholders equity/ (deficit)
	Shares	Amount	Warrants	Shares	Amount				
Issuance of Series A convertible preferred stock (net of expenses of $1,340 and warrant cost of $1,683)	4,197,946	15,077							15,077
Fair value of warrants to purchase Series A convertible preferred stock			1,683						1,683
Issuance of common stock to EasyWeb Stockholders				189,922					
Conversion of Series A convertible preferred stock @ $0.001 into $0.001 common stock on September 13, 2005 at an exchange ratio of .500974	(4,197,946)	(15,077)	(1,683)	4,197,823	4	15,073	1,683		
Issuance of common stock for options				98,622		4			4
Fair value of options/warrants issued for nonemployee services						54	45		99
Net loss								(9,517)	(9,517)
Balance at December 31, 2005				7,247,992	7	20,580	1,979	(15,364)	7,202

The accompanying notes are an integral part of these financial statements.

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

Statements of Changes in Preferred Stock

and Stockholders Equity (Deficit) (Cont.)

For the Period September 9, 2003 (date of inception) to December 31, 2012

(in thousands, except share and per share data)

	Preferred stock and warrants						Stockholder s equity (deficit)	
	Series A preferred stock		Warrants to purchase series A preferred stock	Common stock		Additional paid-in capital common stock	Additional paid-in capital warrants	Deficit accumulated during the development stage	Total stockholders equity/ (deficit)
	Shares	Amount	Warrants	Shares	Amount				
Issuance of common stock in private placement, net of expenses $2,719				7,991,256	8	21,180			21,188
Issuance of warrants							13,092		13,092
Issuance of common stock for services rendered				25,000		106			106
Stock-based compensation for employees						2,777			2,777
Issuance of common stock due to exercise of stock options				5,845		25			25
Issuance of common stock due to exercise of stock warrants				2,806					
Net loss								(17,857)	(17,857)
Balance at December 31, 2006				15,272,899	15	44,668	15,071	(33,221)	26,533
Issuance of common stock in private placement, net of expenses $1,909				5,910,049	6	23,532			23,538
Issuance of warrants							5,433		5,433
Stock-based compensation for employees						1,318			1,318
Stock-based compensation for non-employee						120			120
Issuance of common stock for stock options				46,016		36			36
Issuance of restricted stock				70,000					
Net Loss								(26,608)	(26,608)
Balance at December 31, 2007				21,298,964	21	69,674	20,504	(59,829)	30,370

The accompanying notes are an integral part of these financial statements.

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

Statements of Changes in Preferred Stock

and Stockholders Equity (Deficit) (Cont.)

For the Period September 9, 2003 (date of inception) to December 31, 2012

(in thousands, except share and per share data)

	Preferred stock and warrants					Stockholder s equity (deficit)			
	Series A preferred stock		Warrants to purchase series A preferred stock	Common stock		Additional paid-in capital common stock	Additional paid-in capital warrants	Deficit accumulated during the development stage	Total stockholders equity/ (deficit)
	Shares	Amount	Warrants	Shares	Amount				
Stock-based compensation						1,600			1,600
Issuance of restricted common stock				586,500	1	(1)			
Forfeiture of unvested restricted common stock				(25,000)					
Other						1		(1)	
Net loss								(25,231)	(25,231)
Balance at December 31, 2008				21,860,464	22	71,274	20,504	(85,061)	6,739
Cumulative effect of a change in accounting principle - January 1, 2009 reclassification of warrants to warrant liabilities							(1,638)	1,566	(72)
Stock-based compensation						2,181			2,181
Forfeiture of unvested restricted common stock				(69,500)					
Issuance of common stock and warrants in a private placement, net of expenses $465				2,772,337	3	385	4,207		4,595
Issuance of common stock and warrants in a registered direct offering, net of commission and expenses of $2,802 and warrants of $22,860				15,484,000	15	22,323			22,338
Exercise of warrants to purchase common stock				136,986		279			279
Exercise of employee stock options				102,564		73			73
Issuance of restricted common stock				1,400,500	2	(2)			
Repurchase of shares of restricted common stock				(103,823)		(380)			(380)
Net loss								(7,649)	(7,649)
Balance at December 31, 2009				41,583,528	42	96,133	23,073	(91,144)	28,104

The accompanying notes are an integral part of these financial statements.

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

Statements of Changes in Preferred Stock

and Stockholders Equity (Deficit) (Cont.)

For the Period September 9, 2003 (date of inception) to December 31, 2012

(in thousands, except share and per share data)

	Preferred stock and warrants						Stockholder s equity (deficit)		
	Series A preferred stock		Warrants to purchase Series A preferred stock Warrants	Common stock		Additional paid-in capital common stock	Additional paid-in capital warrants	Deficit accumulated during the development stage	Total stockholders equity/ (deficit)
	Shares	Amount		Shares	Amount				
Stock-based compensation						3,637			3,637
Issuance of common stock in a registered direct offering, net of commission and expenses of $2,203				7,000,000	7	32,797			32,804
Exercise of warrants to purchase common stock				39,225		360	(239)		121
Exercise of employee stock options				196,167		225			225
Issuance of restricted common stock				115,000					
Repurchase of shares of restricted common stock				(416,108)	(1)	(1,667)			(1,668)
Cancelled restricted stock				(51,250)					
Expired warrants						45	(45)		
Net loss								(32,670)	(32,670)
Balance at December 31, 2010				48,466,562	48	131,530	22,789	(123,814)	30,553
Stock-based compensation						2,759			2,759
Issuance of common stock in a securities offering, net of commission and expenses of $245				11,040,000	11	59,795			59,806
Issuance of common stock in a collaboration agreement net of commission and expenses of $86				6,063,161	6	28,852			28,858
Exercise of warrants to purchase common stock				2,377,571	2	21,766	(9,067)		12,701
Exercise of employee stock options				479,666	1	980			981
Exercise of non-employee stock options				6,904					
Issuance of restricted common stock				848,406	1	(1)			
Repurchase of shares of restricted common stock				(59,559)		(273)			(273)
Cancelled restricted stock				(16,667)					
Expired warrants						1,111	(1,111)		
Net loss								(63,778)	(63,778)

Balance at December 31, 2011	69,206,044	69	246,519	12,611	(187,592)	71,607

The accompanying notes are an integral part of these financial statements.

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

Statements of Changes in Preferred Stock

and Stockholders Equity (Deficit) (Cont.)

For the Period September 9, 2003 (date of inception) to December 31, 2012

(in thousands, except share and per share data)

	Preferred stock and warrants						Stockholder s equity (deficit)			
	Series A preferred stock		Warrants to purchase Series A preferred stock	Common stock		Additional paid-in capital common stock	Additional paid-in capital warrants	Deficit accumulated during the development stage	Total stockholders equity/ (deficit)
	Shares	Amount	Warrants	Shares	Amount				
Stock-based compensation						4,880			4,880
Issuance of common stock in a registered direct offering, net of commission and expenses of $3,426				10,114,401	11	49,159			49,170
Exercise of warrants to purchase common stock				259,660		1,011	(269)		742
Exercise of employee stock options				8,300		30			30
Issuance of restricted common stock				258,032					
Repurchase of shares of restricted common stock				(123,153)		(546)			(546)
Cancelled restricted stock				(123,370)					
Expired warrants						5,433	(5,433)		
Issuance of common stock in a collaboration agreement				3,636,926	3	18,691			18,694
Net Loss								(96,132)	(96,132)
Balance at December 31, 2012		$	$	83,236,840	$ 83	$ 325,177	$ 6,909	$ (283,724)	$ 48,445

The accompanying notes are an integral part of these financial statements.

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

Statements of Cash Flows

(in thousands)

	For the year ended December 31,			Period from September 9, 2003 (date of inception) through December 31, 2012
	2012	**2011**	**2010**	
Cash flows from operating activities:				
Net loss	$ (96,132)	$ (63,778)	$ (32,670)	$ (283,724)
Adjustments to reconcile net loss to net cash used in operating activities:				
Depreciation and amortization	658	268	188	2,574
Stock-based compensation	4,880	2,759	3,637	20,181
Change in fair value of warrants	(6,050)	(7,583)	8,889	(10,771)
Loss on disposal of fixed assets	48			57
Common stock issued in exchange for in-process research and development	18,694	17,457		36,151
Change in operating assets and liabilities:				
(Increase) decrease in:				
Collaboration receivable	21	(79)		(58)
Prepaid expenses and other current assets	(5,599)	(889)	(70)	(6,912)
Other noncurrent assets	(230)	(407)	(122)	(1,001)
Deposits	(43)	(4)	(41)	(134)
Increase (decrease) in:				
Accounts payable	(218)	696	(758)	1,509
Accrued expenses	5,695	8,283	1,277	16,516
Deferred revenue	(800)	4,333		3,533
Deferred rent	244	109	(24)	439
Net cash used in operating activities	(78,832)	(38,835)	(19,694)	(221,640)
Cash flows from investing activities:				
Purchases of property and equipment	(1,559)	(1,156)	(186)	(4,626)
Proceeds from sale of property and equipment				1
Net cash used in investing activities	(1,559)	(1,156)	(186)	(4,625)
Cash flows from financing activities:				
Stockholders capital contribution				500
Proceeds from exercise of stock options	30	980	225	1,373
Payments to employees for repurchase of restricted common stock	(546)	(274)	(1,668)	(2,867)
Proceeds from exercise of warrants	330	12,399	72	13,079
Proceeds from issuance of common stock and warrants, net	49,170	71,207	32,804	270,726
Proceeds from issuance of preferred stock, net				16,760
Net cash provided by financing activities	48,984	84,312	31,433	299,571
Net increase (decrease) in cash and cash equivalents	(31,407)	44,321	11,553	73,306
Cash and cash equivalents, beginning of period	104,713	60,392	48,839	
Cash and cash equivalents, end of period	$ 73,306	$ 104,713	$ 60,392	$ 73,306

Supplementary disclosure of cash flow information:				
Cash paid for interest	$	$	$	$
Cash paid for income taxes	$	$	$	$
Supplementary disclosure of noncash investing and financing activities:				
Warrants issued to placement agents and investors	$	$	$	$ 47,276
Preferred stock conversion to common stock	$	$	$	$ 16,760
Exercise of equity-classified warrants to common shares	$ 269	$ 9,067	$ 239	$ 9,324
Exercise of liability-classified warrants to common shares	$ 412	$ 303	$ 49	$ 352

The accompanying notes are an integral part of these financial statements.

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

Notes to Financial Statements

1. Organization

ZIOPHARM Oncology, Inc., which we refer to as ZIOPHARM or the Company , is a biopharmaceutical company that seeks to acquire, develop and commercialize, on its own or with other commercial partners, products for the treatment of important unmet medical needs in cancer.

The Company s operations to date have consisted primarily of raising capital and conducting research and development. Accordingly, the Company is considered to be in the development stage at December 31, 2012. The Company s fiscal year ends on December 31.

The Company has operated at a loss since its inception in 2003 and had no significant revenues. The Company anticipates that losses will continue for the foreseeable future. At December 31, 2012, the Company s accumulated deficit was approximately $283.7 million. The Company currently believes that its existing cash resources at December 31, 2012, will be sufficient to fund its operations into the second half of 2013. These factors raise substantial doubt about the Company s ability to continue as a going concern. The Company has a variety of ongoing clinical trials, the outcomes of which will have an impact on managements plans to improve liquidity. The Company has various dilutive and non-dilutive funding alternatives if the results are positive and if the results are negative, alternative cost-cutting efficiencies are planned in an attempt to extend the Company s cash resources as long as possible. There is no assurance that any fundraising or any cost-cutting alternative would be realized. In addition, changes may occur that would consume the Company s existing capital prior to the second half of 2013, including expansion of the scope of, and/or slower than expected progress of, the Company s research and development efforts and changes in governmental regulation. Actual costs may ultimately vary from the Company s current expectations, which could materially impact the Company s use of capital and the Company s forecast of the period of time through which the Company s financial resources will be adequate to support the Company s operations. The Company has also assumed responsibility for the advancement of two product candidates in the clinic under its exclusive channel partnership with Intrexon Note 2 and the Company expects that the costs associated with these and additional product candidates will increase the level of its overall research and development expenses significantly going forward. Although the Company s forecasts for expenses and the sufficiency of its capital resources takes into account its plans to develop the Intrexon products, the Company assumed development responsibility for these products on January 6, 2011, and the actual costs associated therewith may be significantly in excess of forecasted amounts. In addition to above factors, the Company s actual cash requirements may vary materially from the Company s current expectations for a number of other factors that may include, but are not limited to, changes in the focus and direction of its research and development programs, competitive and technical advances, costs associated with the development of the Company s product candidates, its ability to secure partnering arrangements, and costs of filing, prosecuting, defending and enforcing the Company s intellectual property rights. If the Company exhausts its capital reserves more quickly than anticipated, regardless of the reason, and the Company is unable to obtain additional financing on terms acceptable to it or at all, the Company will be unable to proceed with development of some or all of our product candidates on expected timelines and will be forced to prioritize among them. Moreover, if the Company fails to advance one or more of its current product candidates to later-stage clinical

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

Notes to Financial Statements

trials, successfully commercialize one or more of its product candidates, or acquire new product candidates for development, the Company may have difficulty attracting investors that might otherwise be a source of additional financing.

In the current economic environment, the Company s need for additional capital and limited capital resources may force it to accept financing terms that could be significantly more dilutive to existing stockholders than if the Company were raising capital when the capital markets were more stable. To the extent that the Company raises additional capital by issuing equity securities, its stockholders may experience dilution. In addition, the Company could grant future investors rights superior to those of its existing stockholders. If the Company raises additional funds through collaborations and licensing arrangements, it could be necessary to relinquish some rights to its technologies, product candidates or products, or grant licenses on terms that are not favorable to the Company. If it raises additional funds by incurring debt, the Company could incur significant interest expense and become subject to covenants in the related transaction documentation that could affect the manner in which the Company conducts its business.

2. Financings

On January 20, 2012, the Company entered into an underwriting agreement with J. P. Morgan Securities LLC, as representative of the several underwriters named therein, relating to the issuance and sale of 9,650,000 shares of our common stock. The price to the public in the offering was $5.20 per share, and the underwriters agreed to purchase the shares from the Company pursuant to the underwriting agreement at a purchase price of $4.888 per share. Under the terms of the underwriting agreement, the Company also granted the underwriters an option, exercisable for 30 days, to purchase up to an additional 1,447,500 shares of common stock at a purchase price of $4.888 per share. The offering was made pursuant to the Company s effective registration statement on Form S-3 (Registration Statement No. 333-177793) previously filed with the SEC, and a prospectus supplement thereunder. The underwriters purchased the 9,650,000 shares on January 25, 2012 and purchased an additional 464,401 shares on January 31, 2012 pursuant to the partial exercise of their option to purchase additional shares, resulting in our issuing a total of 10,114,401 shares. The net proceeds from the offering were approximately $49.2 million after deducting underwriting discounts and estimated offering expenses payable by the Company.

On February 3, 2011, the Company entered into an underwriting agreement with Barclays Capital Inc., or Barclays, relating to the issuance and sale of 9,600,000 shares of the Company s common stock in a public offering. The price to the public in the offering was $5.75 per share, and Barclays, as the sole underwriter for the offering, agreed to purchase the shares from the Company pursuant to the underwriting agreement at a purchase price of $5.425 per share. Under the terms of the underwriting agreement, the Company also granted Barclays an option, exercisable for 30 days, to purchase up to an additional 1,440,000 shares of the Company s common stock at a purchase price of $5.425 per share. On February 8, 2011, the transactions contemplated by the underwriting agreement were completed. In connection with the closing, Barclays exercised in full its option to purchase the additional 1,440,000 shares, resulting in the Company issuing a total of 11,040,000 shares at the closing. The net proceeds from the offering were approximately $59.8 million after deducting underwriting discounts and offering expenses.

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

Notes to Financial Statements

On January 6, 2011, and in conjunction with the Company s execution and delivery of the Channel Agreement with Intrexon Corporation, or Intrexon, the Company entered into a Stock Purchase Agreement and Registration Rights Agreement with Intrexon. On January 12, 2011, and pursuant to that Stock Purchase Agreement, Intrexon purchased 2,426,235 shares of the Company s common stock in a private placement for a total purchase price of $11,645,928, or $4.80 per share. The Company simultaneously issued to Intrexon an additional 3,636,926 shares of its common stock for a cash purchase price equal to the $0.001 par value of such shares, which price was deemed paid in partial consideration for the execution and delivery of the Channel Agreement. This resulted in a non-cash expense of approximately $17.5 million for the in process research and development. Under the terms of the Stock Purchase Agreement, the Company agreed to issue to Intrexon an additional 3,636,926 shares of its common stock under certain conditions upon dosing of the first patient in a ZIOPHARM-conducted Phase 2 clinical trial in the Unites States, or similar study as the parties may agree in a country other than the United States, of a product candidate that is created, produced, developed or identified directly or indirectly by us during the term of the Channel Agreement and that, subject to certain exceptions, involves DNA administered to humans for expression of anti-cancer effectors for the purpose of treatment or prophylaxis of cancer. These shares were issued on November 7, 2012 (See Note 11 to the financial statements, Preferred Stock and Stockholders Equity), and when issued, the purchase price for such shares was equal to the $0.001 par value of such shares, which price was deemed paid in partial consideration for the execution and delivery of the Channel Agreement, in accordance with the terms of the Stock Purchase Agreement. Pursuant to the Registration Rights Agreement, the Company has filed a registration statement with the SEC registering the resale of the shares that we have issued or may issue to Intrexon under the Stock Purchase Agreement.

Also under the Stock Purchase Agreement, if requested by the Company and subject to certain conditions, restrictions and limitations, Intrexon has agreed to purchase the Company s securities in conjunction with qualified securities offerings that are conducted by the Company while the Channel Agreement remains in effect. In conjunction with a qualified offering, Intrexon has committed to purchase up to 19.99% of the securities offered and sold therein (exclusive of Intrexon s purchase) if requested to do so by the Company. Intrexon will not be obligated to purchase securities in a qualified securities offering unless the Company is then in substantial compliance with its obligations under the Channel Agreement and, with respect to a qualified offering that is completed following January 6, 2012, the Company confirms its intent that 40% of the offering s net proceeds shall have been spent, or in the next year will be spent, by the Company under the Channel Agreement. In the case of a qualified offering that is completed after January 6, 2013, Intrexon s purchase commitment will be further limited to an amount equal to one-half of the proceeds spent or to be spent by the Company under the Channel Agreement. Intrexon s aggregate purchase commitment for all future qualified offerings is capped at $50.0 million. The Company and Intrexon subsequently amended the Stock Purchase Agreement to clarify that gross proceeds from the sale of Company securities to Intrexon in a qualified offering will apply against Intrexon s $50.0 million purchase commitment regardless of whether Intrexon participates voluntarily or at the request of the Company. As a result of Intrexon s purchase of securities in our February 2012 public offering, the remaining maximum amount of Intrexon s equity purchase commitment is approximately $29.0 million.

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

Notes to Financial Statements

On May 27, 2010, the Company entered into an underwriting agreement with Jefferies & Company, Inc. (the Representative) relating to the issuance and sale of 7,000,000 shares of the Company s common stock, par value $0.001 per share. The Representative, on behalf of itself and JMP Securities LLC, as underwriters for the offering, purchased 7,000,000 shares from the Company pursuant to the underwriting agreement and offered the shares to the public at a price of $5.00, and to certain dealers at that price less a concession not in excess of $0.18 per share of common stock. The net proceeds to the Company from this offering were $32.8 million, after deducting underwriting discounts, commissions and other offering expenses of $2.2 million. The offering was completed on June 2, 2010. Under the terms of the underwriting agreement, the Company granted the Representative an option, exercisable for 30 days, to purchase up to an additional 1,050,000 shares of common stock to cover over-allotments, if any. The overallotment expired on July 2, 2010, without being exercised.

On December 4, 2009, the Company entered into an underwriting agreement in which JMP Securities LLC and Rodman & Renshaw, LLC agreed to serve as co-lead managers (together, the Underwriters) in connection with a public offering and sale by the Company of 15,484,000 units at a price to the public of $3.10 per unit for gross proceeds of $48.0 million. The Company paid $2.8 million in commissions and offering expenses and expects to use the remaining net proceeds of $45.2 million for general corporate purposes, which include ongoing research and development activities. Each unit sold in the offering consisted of one share of our common stock and an investor warrant to purchase 0.5 of a share of common stock. The shares of common stock and investor warrants were immediately separable. The closing of the transaction occurred on December 9, 2009.

In connection with a 2009 underwritten public offering, the Company issued warrants to purchase an aggregate of 8,206,520 shares of common stock (including the investor warrants and 464,520 warrants issued to the Underwriters). The investor warrants are exercisable immediately and the underwriter warrants exercisable six months after the date of issuance. The warrants have an exercise price of $4.02 per share and have a five year term. The fair value of the warrants was estimated at $22.9 million using a Black-Scholes model with the following assumptions: expected volatility of 105%, risk free interest rate of 2.14%, expected life of five years and no dividends.

The Company assessed whether the warrants require accounting as derivatives. The Company determined that the warrants were not indexed to the Company s own stock in accordance with Financial Accounting Standards Board, or FASB, Accounting Standards Codification, or ASC, Topic 815, *Derivatives and Hedging* . As such, the Company has concluded the warrants did not meet the scope exception for determining whether the instruments require accounting as derivatives and should be classified as liabilities (see Note 9 to the financial statements, Warrants).

On September 9, 2009, the Company entered into a securities purchase agreement with certain investors pursuant to which it sold a total of 2,772,337 units (the 2009 Private Placement), each unit consisting of one share of common stock and a warrant to purchase one share of common stock for a purchase price of $1.825 per unit. The closing of the transaction occurred on September 15, 2009. In connection with the 2009 Private Placement, the Company raised approximately $5.1 million in gross proceeds. After paying $455 thousand in placement agent fees and offering expenses, the net proceeds were $4.6 million.

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

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In connection with a 2009 private placement, the Company issued warrants to purchase an aggregate of 2,910,954 shares of common stock (including 138,617 warrants issued to the placement agents) which are exercisable immediately. The warrants have an exercise price of $2.04 per share and have a five year term. The fair value of the warrants was estimated at $4.2 million using a Black-Scholes model with the following assumptions: expected volatility of 105%, risk free interest rate of 2.41%, expected life of five years and no dividends. The fair value of the warrants was recorded in the equity section of the balance sheet.

The Company assessed whether the warrants require accounting as derivatives. The Company determined that the warrants were indexed to the Company s own stock in accordance with FASB ASC Topic 815, *Derivatives and Hedging* . As such, the Company has concluded the warrants meet the scope exception for determining whether the instruments require accounting as derivatives and should be classified in stockholders equity.

In connection with the 2009 Private Placement, the Company entered into a registration rights agreement with each of the investors. The registration rights agreement requires that the Company file a resale registration statement covering all of the shares issued in the 2009 Private Placement and the shares issuable upon exercise of the warrants issued in the 2009 Private Placement, up to the maximum number of shares able to be registered pursuant to applicable Securities and Exchange Commission (SEC) regulations, within 30 days of the closing of the 2009 Private Placement. The Company filed the registration statement with the SEC on September 28, 2009 (File No. 333-162160). Under the terms of the registration rights agreement, the Company is obligated to maintain the effectiveness of the resale registration statement until all securities therein are sold or are otherwise can be sold pursuant to Rule 144, without any restrictions. A cash penalty at the rate of 1% of the purchase price per month, capped at a maximum of 10% of the purchase price (or $506 thousand), will be triggered for any filing or effectiveness failures or if, at any time after six months following the closing of the 2009 Private Placement, the Company ceases to be current in periodic reports with the SEC.

In December 2006, the FASB issued an accounting standard, which addresses an issuer s accounting for registration payment arrangements. The accounting standard specifies that the contingent obligation to make future payments or otherwise transfer consideration under a registration payment arrangement, whether issued as a separate agreement or included as a provision of a financial instrument or other agreement, should be separately recognized and measured in accordance with FASB guidance in Accounting for Contingencies. The accounting standard further clarifies that a financial instrument subject to a registration payment arrangement should be accounted for in accordance with US GAAP without regard to the contingent obligation to transfer consideration pursuant to the registration payment arrangement. The Company applied the recognition and measurement provisions of the accounting standard to the registration rights associated with the registration rights agreement. As result, the Company believes that the contingent obligation to make future payments is not probable and as such has recorded no liability associated with these registration rights.

On February 23, 2007, pursuant to subscription agreements between the Company and certain institutional and other accredited investors, the Company completed the sale of an aggregate of 5,910,049 shares of the Company s common stock at a price of $5.225 per share in a private

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placement (the 2007 Offering). In addition to these shares sold in the 2007 Offering, the Company also issued to each investor a five-year warrant to purchase, at an exercise price of $5.75 per share, an additional number of shares of common stock equal to 20 percent of the shares purchased by such investor in the 2007 Offering. In the aggregate, these warrants entitle investors to purchase an additional 1,182,015 shares of common stock. The Company estimated the fair value of these warrants at $4.7 million using the Black-Scholes model, using an assumed risk-free rate of 4.71% and an expected life of 5 years, volatility of 93%, and a dividend yield of 0%. The total gross proceeds resulting from the 2007 Offering was approximately $30.9 million, before deducting selling commissions and expenses.

The Company assessed whether the warrants require accounting as derivatives. The Company determined that the warrants were indexed to the Company s own stock in accordance with ASC Topic 815, *Derivatives and Hedging* . As such, the Company has concluded the warrants meet the scope exception for determining whether the instruments require accounting as derivatives and should be classified in stockholders equity.

The Company engaged Paramount BioCapital, Inc. (Paramount), Oppenheimer & Co. Inc., and Griffin Securities, Inc. (together, the 2007 Placement Agents) as placement agents in connection with the 2007 Offering. In consideration for their services, the Company paid the 2007 Placement Agents aggregate cash commissions of $1.6 million (of which $1.0 million was paid to Paramount; see Note 7 to the financial statements, Related Party Transactions) and issued 5-year warrants to the 2007 Placement Agents and their designees to purchase an aggregate of 156,058 shares of the Company s common stock at an exercise price of $5.75 per share. In connection with the 2007 Offering, the Company also made cash payments of $222 thousand and issued 5-year warrants to purchase 21,244 shares of the Company s common stock, at an exercise price of $5.75 per share, to a financial consultant pursuant to the non-circumvention provision of a prior agency agreement. The Company estimated the fair value of these 177,302 warrants at $709 thousand using the Black-Scholes model, using an assumed risk-free rate of 4.71% and an expected life of 5 years, volatility of 93%, and a dividend yield of 0%.

The Company assessed whether the warrants require accounting as derivatives. The Company determined that the warrants were indexed to the Company s own stock in accordance with ASC Topic 815, *Derivatives and Hedging* . As such, the Company has concluded the warrants meet the scope exception for determining whether the instruments require accounting as derivatives and should be classified in stockholders equity.

Pursuant to the 2007 Offering, the Company agreed to use its best efforts to (i) file a registration statement covering the resale of the shares sold in the 2007 Offering and the common stock issuable upon exercise of the investor warrants and placement agent warrants issued in the 2007 Offering within 45 days following the closing date of the 2007 Offering, and (ii) use reasonable commercial efforts to cause the registration statement to be effective within 120 days after such final closing date.

With respect to each investor in the 2007 Offering, the Company also agreed to use reasonable commercial efforts to cause the registration statement to remain effective until the earliest of (i) the date on which the investor may sell all of the shares and shares issuable upon exercise of

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the warrants then held by the investor pursuant to then-Rule 144 of the Securities Act of 1933 without regard to volume restrictions; and (ii) such time as all of the securities held by the investor and registered under the registration statement have been sold pursuant to a registration statement, or in a transaction exempt from the registration and prospectus delivery requirements of the Securities Act of 1933 under Section 4(1) thereof so that all transfer restrictions and restrictive legends are removed upon the consummation of such sale. The 2007 Placement Agents have been afforded equivalent registration rights as the investors in the 2007 Offering with respect to the shares issuable upon exercise of the placement agent warrants. Effective January 1, 2007, the Company adopted a new accounting standard which requires that instruments subject to registration payments are accounted for without regard to the contingent obligation to make registration payments. As a result, the Company has determined that no contingent loss exists based on its history of timely annual, quarterly and registration filings. The Company intends to continue the timely compliance with all SEC filing requirements, which will keep the Company current and the shares registered. On March 1, 2007, the Company filed a registration statement on Form S-3 with the Securities and Exchange Commission. The registration statement was declared effective on March 26, 2007, rendering the resale of the shares issued in the 2007 Offering registered under the Securities Exchange Act of 1933 and no penalty was recorded.

On May 3, 2006, pursuant to subscription agreements, the Company and certain institutional and other accredited investors, the Company completed the sale of an aggregate of 7,991,256 shares of the Company s common stock at a price of $4.63 per share in a private placement (the 2006 Offering). In addition to the shares, the Company also issued to each investor a five-year warrant to purchase, at an exercise price of $5.56 per share, an additional number of shares of common stock equal to 30 percent of the shares purchased by such investor in the 2006 Offering. In the aggregate, these Warrants entitle investors to purchase an additional 2,397,392 shares of common stock. The Company estimated the fair value of these warrants at $9.6 million using the Black-Scholes model, using an assumed risk-free rate of 5.01% and an expected life of 5 years, volatility of 100%, and a dividend yield of 0%. The total gross proceeds resulting from the 2006 Offering was approximately $37 million, before deducting selling commissions and expenses.

The Company assessed whether the warrants require accounting as derivatives. The Company determined that the warrants were both (1) indexed to the Company s own stock and (2) classified in stockholders equity in accordance with ASC Topic 815, *Derivatives and Hedging*. As such, the Company has concluded the warrants meet the scope exception for determining whether the instruments require accounting as derivatives and should be classified in stockholders equity.

The Company engaged Paramount BioCapital, Inc. and Griffin Securities, Inc. (together, the 2006 Placement Agents) as co-placement agents in connection with the 2006 Offering. In consideration for their services, the Company paid the 2006 Placement Agents and certain selected dealers engaged by the 2006 Placement Agents and their designees aggregate cash commissions of $2.6 million (of which $1.7 million was paid to Paramount; see Note 7 to the financial statements, Related Party Transactions) and issued 7-year warrants to the 2006 Placement Agents and their designees to purchase an aggregate of 799,126 shares of the Company s common stock (10 percent of the shares sold in the 2006 Offering) at an exercise price of $5.09 per share. The Company

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estimated the fair value of these warrants at $3.5 million using the Black-Scholes model, using an assumed risk-free rate of 5.01% and an expected life of 7 years, volatility of 100% and a dividend yield of 0%. The Company made reimbursements of $100 thousand to the 2006 Placement Agents for their expenses incurred in connection with the 2006 Offering.

Pursuant to the 2006 Offering, the Company agreed to use its best efforts to (i) file a registration statement covering the resale of the shares issued in the 2006 Offering and the common stock issuable upon exercise of the warrants issued in the 2006 Offering (including the placement agent warrants) within 30 days following the closing date of the 2006 Offering, and (ii) use its reasonable commercial efforts to cause the registration statement to be effective within 120 days after such final closing date.

With respect to each investor in the 2006 Offering, the Company also agreed to use its reasonable commercial efforts to cause the registration statement to remain effective until the earliest of (i) the date on which the investor may sell all of the shares issued in the 2006 Offering and shares issuable upon exercise of the warrants then held by the investor pursuant to then-Rule 144 of the Securities Act of 1933 without regard to volume restrictions; and (ii) such time as all of the securities held by the investor and registered under the registration statement have been sold pursuant to a registration statement, or in a transaction exempt from the registration and prospectus delivery requirements of the Securities Act of 1933 under Section 4(1) thereof so that all transfer restrictions and restrictive legends are removed upon the consummation of such sale. The 2006 Placement Agents have been afforded equivalent registration rights as the investors in the 2006 Offering with respect to the shares issuable upon exercise of the placement agent warrants. Warrants issued in the 2006 Offering are classified as equity. On May 19, 2006, the Company filed a registration statement on Form S-3 with the Securities and Exchange Commission. The registration statement was declared effective on May 30, 2006, rendering the resale of the shares issued in the 2006 Offering registered under the Securities Exchange Act of 1933 and no penalties were recorded.

On August, 3, 2005, the Company entered into an Agreement and Plan of Merger dated as of August 3, 2005 (the Merger Agreement) with EasyWeb, Inc., a Delaware corporation (EasyWeb), and ZIO Acquisition Corp., a Delaware corporation and wholly-owned subsidiary of EasyWeb (ZIO Acquisition). EasyWeb was a company that was incorporated in September 1998 and had been in the business of designing, marketing, selling and maintaining customized and template turnkey sites on the Internet that are hosted by third parties. At the time of the Merger (as defined below), however, EasyWeb had no operating business and had limited assets and liabilities. Pursuant to the Merger Agreement, ZIO Acquisition merged with and into ZIOPHARM, with ZIOPHARM remaining as the surviving company and a wholly-owned subsidiary of EasyWeb (the Merger). In connection with the Merger, which was effective as of September 13, 2005, ZIO Acquisition ceased to exist and the surviving company changed its corporate name to ZIOPHARM, Inc. Based upon an Exchange Ratio, as defined in the Merger Agreement, in exchange for all of their shares of capital stock in ZIOPHARM, the ZIOPHARM stockholders received a number of shares of common stock of EasyWeb such that, upon completion of the Merger, the then-current ZIOPHARM stockholders held approximately 96.8% of the outstanding shares of common stock of EasyWeb on a fully-diluted basis. Upon completion of the Merger, EasyWeb ceased all of its remaining operations and adopted and continued implementing the

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business plan of ZIOPHARM. Further, effective upon the Merger, the then current officers and directors of EasyWeb resigned, and the then current officers and directors of ZIOPHARM were appointed officers and directors of EasyWeb. In conjunction with the Merger, ZIOPHARM made payments of approximately $425,000 to certain affiliates of EasyWeb in the third quarter of 2005. Subsequently, on September 14, 2005, ZIOPHARM merged into EasyWeb, and EasyWeb changed its name to ZIOPHARM Oncology, Inc.

Although EasyWeb was the legal acquirer in the transaction, ZIOPHARM became the registrant with the Securities and Exchange Commission. Under generally accepted accounting principles, the transaction was accounted for as a reverse acquisition, whereby ZIOPHARM was considered the acquirer of EasyWeb for financial reporting purposes because ZIOPHARM s stockholders controlled more than 50% of the post-transaction combined entity, the management and the board were that of ZIOPHARM after the transaction, EasyWeb had no operating activity and limited assets and liabilities as of the transaction date, and the continuing operations of the entity are those of ZIOPHARM.

Accordingly, the equity of EasyWeb was adjusted to reflect a recapitalization of the stock and the equity of ZIOPHARM was adjusted to reflect a financing transaction with the proceeds equal to the net asset value of EasyWeb immediately prior to the Merger. The historical financial statements of ZIOPHARM became the historical financial statements of the Company. The historical stockholders equity was retroactively restated to adjust for the exchange of shares pursuant to the Merger Agreement. All share and per share information included in the accompanying financial statements and notes give effect to the exchange, except as otherwise stated.

On June 6, 2005, the Company completed an offering (the 2005 Offering) of Series A Convertible Preferred Stock (Series A Preferred Stock). The Company issued 4,197,946 shares at $4.31 for gross proceeds of approximately $18.1 million. In connection with the 2005 Offering, the Company compensated Paramount, placement agent for the 2005 Offering, or its affiliates for its services through the payment of (a) cash commissions equal to 7% of the gross proceeds from the sale of the shares of Series A Preferred Stock, and (b) placement warrants to acquire 419,794 shares of Series A Preferred Stock (the Series A Stock Warrants), exercisable for a period of 7 years from the closing date at a per-share exercise price equal to 110% of the price per share sold in the 2005 Offering. These commissions are also payable on additional sales by the Company of securities (other than in a public offering) to investors introduced to the Company by Paramount during the twelve (12) month period subsequent to the final closing of the Offering. The Company also paid Paramount an expense allowance of $50 thousand to reimburse Paramount for its out-of-pocket expenses. Also, for a period of 36 months from the final Closing, Paramount has the right of first refusal to act as the placement agent for any private sale of the Company s securities. On September 13, 2005, the Series A Preferred Stock was converted to 4,197,946 of the company s common stock. Lastly, the Company has agreed to indemnify Paramount against certain liabilities, including liabilities under the Securities Act (see Note 7 to the financial statements, Related Party Transactions).

The Company valued the Series A Stock Warrants using the Black-Scholes model and recorded a charge of $1.7 million against additional paid-in capital. The Company has estimated the fair

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value of such warrants using the Black-Scholes model, using an assumed risk-free rate of 3.93% and expected life of 7 years, volatility of 134% and dividend yield of 0%. The net proceeds from the 2005 Offering were used for research and development, licensing fees and expenses, and for working capital and general corporate purposes.

3. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (U.S. GAAP).

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Although the Company regularly assesses these estimates, actual results could differ from those estimates. Changes in estimates are recorded in the period in which they become known.

The Company s most significant estimates and judgments used in the preparation of our financial statements are:

- Clinical trial expenses;
- Fair value measurements for stock based compensation and warrants; and
- Income taxes.

Subsequent Events

The Company evaluated all events and transactions that occurred after the balance sheet date through the date of this filing. During this period, the Company did not identify any material events that require accounting or disclosure in these financial statements.

Cash and Cash Equivalents

Cash equivalents consist primarily of demand deposit accounts and deposits in short-term U.S. treasury money market mutual funds. Cash equivalents are stated at cost, which approximates fair market value.

Concentrations of Credit Risk

Financial instruments which potentially subject the Company to concentrations of credit risk consist principally of cash and cash equivalents. The Company maintains cash accounts in

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commercial banks, which may, at times, exceed federally insured limits. The Company has not experienced any losses in such accounts. The Company believes it is not exposed to any significant credit risk on cash and cash equivalents.

Property and Equipment

Property and equipment are recorded at cost. Expenditures for maintenance and repairs are charged to expense while the costs of significant improvements are capitalized. Depreciation is provided using the straight-line method over the following estimated useful lives of the related assets, which is between three and five years. Upon retirement or sale, the cost of the assets disposed of and the related accumulated depreciation are eliminated from the balance sheets and related gains or losses are reflected in the statements of operations.

Restricted Cash

Other non-current assets include cash of $691 thousand that is restricted as collateral for the Company s facility leases.

Long-Lived Assets

In accordance with FASB accounting standards, the Company reviews the carrying values of its long-lived assets for possible impairment whenever events or changes in circumstances indicate that the carrying amounts of the assets may not be recoverable. Any long-lived assets held for disposal are reported at the lower of their carrying amounts or fair values less costs to sell.

Warrants

The Company applies the accounting standard which provides guidance in assessing whether an equity-based financial instrument is indexed to an entity s own stock for purposes of determining whether a financial instrument should be treated as a derivative. In applying the methodology the Company concluded that certain warrants issued by the Company have terms that do not meet the criteria to be considered indexed to the Company s own stock and therefore are classified as liabilities in the Company s balance sheet. The liability classified warrants are subject to re-measurement at each balance sheet date and any change in fair value is recognized as a component of Other income, net in the accompanying Statement of Operations. Fair value is measured using the binomial valuation model. In December 2011, the Company switched from the Black-Scholes valuation model to the binomial valuation model as it provides a better evaluation of the fair market value of the Company s liability-classified warrants.

Fair Value Measurements

The Company accounts for fair value measurements of its financial assets and liabilities and non-financial assets and non-financial liabilities, except those that are recognized or disclosed in the financial statements at fair value on a recurring basis. The accounting standard defines fair value, establishes a framework for measuring fair value under generally accepted accounting principles and enhances disclosures about fair value measurements. Fair value is defined as the exchange

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price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. The standard describes a fair value hierarchy based on three levels of inputs, of which the first two are considered observable and the last unobservable, that may be used to measure fair value which are the following:

Level 1 Quoted prices in active markets for identical assets or liabilities.

Level 2 Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

Assets and liabilities measured at fair value on a recurring basis as of December 31, 2012 and 2011 are as follows:

($ in thousands)		**Fair value measurements at reporting date using**		
Description	**Balance as of December 31, 2012**	**Quoted prices in active markets for identical assets/liabilities (level 1)**	**Significant other observable inputs (level 2)**	**Significant unobservable inputs (level 3)**
Cash equivalents	$ 72,002	$ 72,002	$	$
Warrant liability	$ 12,962	$	$ 12,962	$

($ in thousands)		**Fair value measurements at reporting date using**		
Description	**Balance as of December 31, 2011**	**Quoted prices in active markets for identical assets/liabilities (level 1)**	**Significant other observable inputs (level 2)**	**Significant unobservable inputs (level 3)**

Cash equivalents	$ 103,736	$ 103,736	$		$
Warrant liability	$ 19,425	$	$	19,425	$

The cash equivalents represent deposits in a short term U.S. treasury money market mutual fund. The warrants were valued using a binomial valuation model. See Note 9 to the financial statements, Warrants, for additional disclosure on the valuation methodology and significant assumptions.

Revenue Recognition

The Company receives revenue from a collaboration agreement (see Note 4 to the financial statements, Collaborations and Alliances). Collaboration arrangements typically include payments

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for one or more of the following: non-refundable, upfront license fees, funding of research and development efforts, milestone payments if specified objectives are achieved and/or profit-sharing or royalties on product sales. Arrangements containing multiple elements are divided into separate units of accounting if certain criteria are met, including whether the delivered element has stand-alone value to the collaborative partner. The consideration received is then allocated among the separate units based on their respective fair values and the applicable revenue recognition criteria are applied to each of the separate units.

Revenue from non-refundable, upfront research and development fees is reported as research and development revenue and is recognized on a straight-line basis over the contracted or estimated period of performance, which is typically the development term. Research and development funding is earned over the period of effort.

Milestone payments are recognized as research and development revenue upon achievement of the milestone only if (1) the milestone payment is non-refundable, (2) substantive effort is involved in achieving the milestone and (3) the amount of the milestone is reasonable in relation to the effort expended or the risk associated with achievement of the milestone. If any of these conditions are not met, the milestone payment is deferred and recognized as revenue over the estimated remaining period of performance under the contract as the Company completes its performance obligations.

Research and Development Costs

Research and development expenditures are charged to the statement of operations as incurred. Such costs include proprietary research and development activities, purchased research and development, and expenses associated with research and development contracts, whether performed by the Company or contracted with independent third parties.

Income Taxes

Income taxes are accounted for under the liability method. Deferred tax assets and liabilities are recognized for the estimated future tax consequences of temporary differences between the financial statement carrying amounts and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the year in which the temporary differences are expected to be recovered or settled. The Company evaluates the realizability of our deferred tax assets and establishes a valuation allowance when it is more likely than not that all or a portion of deferred tax assets will not be realized.

The Company accounts for uncertain tax positions using a more-likely-than-not threshold for recognizing and resolving uncertain tax positions. The evaluation of uncertain tax positions is based on factors including, but not limited to, changes in tax law, the measurement of tax positions taken or expected to be taken in tax returns, the effective settlement of matters subject to audit, new audit activity and changes in facts or circumstances related to a tax position. The Company evaluates this tax position on an annual basis. The Company also accrues for potential interest and penalties, related to unrecognized tax benefits in income tax expense (see Note 10 to the financial statements, Income Taxes).

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Accounting for Stock-Based Compensation

Stock-based compensation cost is measured at the grant date, based on the estimated fair value of the award, and is recognized as expense over the employee s requisite service period. Stock-based compensation expense is based on the number of awards ultimately expected to vest and is therefore reduced for an estimate of the awards that are expected to be forfeited prior to vesting. Consistent with prior years, the Company uses the Black-Scholes option pricing model which requires estimates of the expected term option holders will retain their options before exercising them and the estimated volatility of the Company s common stock price over the expected term.

The Company recognizes the full impact of its share-based employee payment plans in the statements of operations for each of the years ended December 31, 2012, 2011, and 2010 and did not capitalize any such costs on the balance sheets. The Company recognized $3.1 million, $2.1 million, and $1.3 million of compensation expense related to vesting of employee stock options during the years ended December 31, 2012, 2011, and 2010, respectively. In the years ended December 31, 2012, 2011, and 2010, the Company recognized $1.7 million, $635 thousand, and $2.4 million of compensation expense, respectively, related to vesting of restricted stock (see Note 12 to the financial statements, Stock Option Plan). In the years ended December 31, 2012, 2011, and 2010, the Company recognized $4.9 million, $2.8 million, and $3.6 million of compensation expense, respectively, related to vesting of employee and director awards. In the year ended December 31, 2010, the Company recognized $27 thousand of compensation expense related to non-employee milestone awards. The following table presents share-based compensation expense included in the Company s Statements of Operations:

	Year ended December 31,		
(in thousands)	**2012**	**2011**	**2010**
Research and development	$ 1,917	$ 890	$ 690
General and administrative	2,963	1,869	2,947
Share based employee compensation expense before tax	4,880	2,759	3,637
Income tax benefit			
Net share based employee compensation expense	$ 4,880	$ 2,759	$ 3,637

Prior to the adoption of the current accounting standards in 2006, the Company previously accounted for stock-based awards to employees using the intrinsic value method and had elected the disclosure-only alternative. All stock-based awards to nonemployees were accounted for at their fair value. The Company had recorded the fair value of each stock option issued to non-employees as determined at the date of grant using the Black-Scholes option pricing model.

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The following table illustrates the effect on net loss and earnings per share if the Company had applied the fair value recognition provisions of current accounting standards to stock-based awards from September 9, 2003 (date of inception) to December 31, 2005:

(in thousands, except per share data)		September 9, 2003 (date of inception) to December 31, 2005
Net loss:		
As reported	$	(15,364)
Stock-based compensation expense included in reported net loss		802
Stock-based compensation expense under the fair-value based method		(1,756)
Pro forma net loss	$	(16,318)
Basic and diluted net loss per share:		
As reported	$	(3.75)
Pro forma	$	(3.98)

The fair value of each stock option is estimated at the date of grant using the Black-Scholes option pricing model. The estimated weighted-average fair value of stock options granted to employees in 2012, 2011, and 2010 was approximately $3.06, $4.04, and $3.26 per share, respectively. Assumptions regarding volatility, expected term, dividend yield and risk-free interest rate are required for the Black-Scholes model. The volatility assumption is based on the Company s historical experience. The risk-free interest rate is based on a U.S. treasury note with a maturity similar to the option award s expected life. The expected life represents the average period of time that options granted are expected to be outstanding. The Company calculated volatility using the simplified method described in SEC Staff Accounting Bulletin, or SAB, No. 107 and No. 110. The assumptions for volatility, expected life, dividend yield and risk-free interest rate are presented in the table below:

	2012	2011	2010
Weighted average risk-free interest rate	0.79 1.13%	1.09 2.69%	1.13 2.75%
Expected life in years	6	6	5
Expected volatility	83.36 83.53%	83.26 87.29%	89.2 90.6%
Expected dividend yield	0	0	0

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Net Loss Per Share

Basic net loss per share is computed by dividing net loss by the weighted average number of common shares outstanding for the period. The Company s potential dilutive shares, which include outstanding common stock options, unvested restricted stock and warrants, have not been included in the computation of diluted net loss per share for any of the periods presented as the result would be antidilutive. Such potential common shares at December 31, 2012, 2011, and 2010 consist of the following:

	December 31,		
	2012	**2011**	**2010**
Stock options	7,147,303	5,138,486	4,566,935
Unvested restricted stock	733,739	950,906	348,753
Warrants	11,197,454	13,117,264	15,912,142
	19,078,496	19,206,656	20,827,830

New Accounting Pronouncements

In January 2011, the Company adopted Accounting Standards Update, or ASU, No. 2010-06, *Improving Disclosures About Fair Value Measurements* which requires additional disclosure about the amounts of and reasons for significant transfers in and out of Level 1 and Level 2 fair value measurements. In addition, effective for interim and annual periods beginning after December 15, 2010, this standard further requires an entity to present disaggregated information about activity in Level 3 fair value measurements on a gross basis, rather than as one net amount. As this accounting standard only requires enhanced disclosure, the adoption of this newly issued accounting standard did not impact our financial position or results of operations.

In May 2011, the Financial Accounting Standards Board, or FASB, issued ASU No. 2011-04, *Fair Value Measurement (Topic 820): Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and IFRSs* . This newly issued accounting standard clarifies the application of certain existing fair value measurement guidance and expands the disclosures for fair value measurements that are estimated using significant unobservable (Level 3) inputs. This ASU is effective on a prospective basis for annual and interim reporting periods beginning on or after December 15, 2011, which for us is January 1, 2012. The adoption of this standard did not have a material impact on our financial position or results of operations.

In June 2011, the FASB issued ASU No. 2011-05, *Comprehensive Income (Topic 220) Presentation of Comprehensive Income* . This newly issued accounting standard (1) eliminates the option to present the components of other comprehensive income as part of the statement of changes in stockholders equity; (2) requires the consecutive presentation of the statement of net income and other comprehensive income; and (3) requires an entity to present reclassification adjustments on the face of the financial statements from other comprehensive income to net income. The amendments in this ASU do not change the items that must be reported in other comprehensive income or when an item of other comprehensive income must be reclassified to net income nor do the amendments affect how earnings per share is calculated or presented. This ASU is required to be applied retrospectively and is effective for fiscal years and interim periods

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within those years beginning after December 15, 2011. As this accounting standard only requires enhanced disclosure, the adoption of this standard did not impact our financial position or results of operations.

In December 2011, the FASB issued ASU No. 2011-11 *Balance Sheet (Topic 210): Disclosures About Offsetting Assets and Liabilities* which require an entity to disclose information about offsetting and related arrangements to enable users of its financial statements to understand the effect of those arrangements on its financial position. This update is effective for periods beginning after January 1, 2013. The adoption of this standard will not have an impact on our financial position or results of operations.

4. Collaborations and Alliances

On March 7, 2011, the Company entered into a License and Collaboration Agreement with Solasia Pharma K.K., or Solasia.

Pursuant to the License and Collaboration Agreement, the Company granted Solasia an exclusive license to develop and commercialize darinaparsin in both IV and oral forms and related organic arsenic molecules, in all indications for human use in a pan- Asian/Pacific territory comprised of Japan, China, Hong Kong, Macau, Republic of Korea, Taiwan, Singapore, Australia, New Zealand, Malaysia, Indonesia, Philippines and Thailand.

As consideration for the license, the Company received an upfront payment of $5 million to be used exclusively for further clinical development of darinaparsin outside of the pan-Asian/Pacific territory, and will be entitled to receive additional payments of up to $32.5 million in development-based milestones and up to $53.5 million in sales-based milestones. The Company will also be entitled to receive double digit royalty payments from Solasia based upon net sales of licensed products in the applicable territories, once commercialized, and a percentage of sublicense revenues generated by Solasia.

The upfront payment for research and development funding is earned over the period of effort. The Company currently estimates this period to be 75 months, which could be adjusted in the future.

Under the License and Collaboration Agreement, the Company provides Solasia with drug product to conduct clinical trials. These transfers are accounted for as a reduction of research and development costs and an increase in collaboration receivables.

The License and Collaboration Agreement provides that Solasia will be responsible for the development and commercialization of darinaparsin in the pan-Asian/Pacific territory.

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

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5. Property and Equipment, net

Property and equipment, net consist of the following:

(in thousands)	December 31, 2012	December 31, 2011
Office and computer equipment	$ 1,552	$ 1,021
Software	856	399
Leasehold improvements	1,357	890
Manufacturing equipment	153	156
	3,918	2,466
Less accumulated depreciation	(1,924)	(1,325)
Property and equipment, net	$ 1,994	$ 1,141

Depreciation and amortization charged to the Statement of Operations for the years ended December 31, 2012, 2011, 2010 and from September 9, 2003 (date of inception) to December 31, 2012 (in thousands) was: $658, $268, $188, and $2,574, respectively.

6. Accrued Expenses

Accrued expenses consist of the following:

(in thousands)	December 31, 2012	December 31, 2011
Professional services	$ 835	$ 1,131
Clinical consulting services	9,628	6,913
Preclinical services	411	1,093
Manufacturing services	3,217	767
Accrued vacation	452	307
Other consulting services	903	347
Payroll taxes and benefits	585	263
Severance	474	
Employee compensation	11	
Accrued expenses	$ 16,516	$ 10,821

7. Related Party Transactions

During 2005, the Company engaged Paramount to assist in placing shares of Series A Preferred Stock on a best efforts basis. Lindsay A. Rosenwald, M.D. is Chairman and Chief Executive Officer of Paramount. Dr. Rosenwald is also a managing member of Horizon BioMedical Ventures, LLC, or Horizon. On December 30, 2004, Horizon authorized the distribution of 2,428,911(4,848,376 pre-Merger) shares of the Company s common stock (such shares, the Horizon Distributed Shares), in equal installments of 1,214,456 (2,424,188 pre-Merger) shares of common stock to Mibars, LLC, or Mibars, and to Dr. Rosenwald and his designees, which we

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

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refer to as the Designated Shares . The disposition of the Designated Shares will be subject to certain restrictions as agreed to among Dr. Rosenwald and Dr. Rosenwald s designees. Among other things, under certain circumstances set forth in pledge agreements between Dr. Rosenwald and his designees, Dr. Rosenwald has the right to re-acquire the Designated Shares from his designees. As a result of those rights, Dr. Rosenwald may be deemed to be an affiliate of the Company.

In connection with the December 22, 2004 Option Agreement with Southern Research Institute, or SRI, the Company entered into a Finders Agreement, dated December 23, 2004, with Paramount pursuant to which the Company has agreed to compensate Paramount, for services in connection with the Company s introduction to SRI through the payment of (a) a cash fee of $60 thousand and (b) warrants to purchase 62,621 (125,000 pre-Merger) shares of the Company s common stock at a price equal to $4.75 ($2.38 pre-Merger) per share. The Company has estimated the fair value of such warrants using the Black-Scholes model, using an assumed risk-free rate of 3.93%, and expected life of 7 years, volatility of 134% and dividend yield of 0%. In December 2004, the Company expensed the $60 thousand that was payable to Paramount and recognized compensation expense in the amount of $251 thousand for the issuance of the warrants. These warrants expired on December 23, 2011.

In connection with the Series A Preferred Stock Offering, the Company and Paramount entered into an Introduction Agreement in January 2005, pursuant to which the Company had agreed to compensate Paramount for its services in connection with the Offering through the payment of (a) cash commissions equal to 7% of the gross proceeds from the sale of the shares of Series A Preferred Stock, and (b) placement warrants to acquire a number of shares of Series A Preferred Stock equal to 10% of the number of shares of Series A Preferred Stock issued in the Offering, exercisable for a period of 7 years from the Closing Date at a per Share exercise price equal to 110% of the price per Share sold in the Offering. These commissions are also payable on additional sales by the Company of securities (other than in a public offering) to investors introduced to the Company by Paramount during the twelve (12) month period subsequent to the final closing of the Offering. The Company also agreed to pay to Paramount a non-accountable expense allowance of $50 thousand to reimburse Paramount for its out-of-pocket expenses. Also, for a period of 36 months from the final Closing, Paramount has the right of first refusal to act as the placement agent for the private sale of the Company s securities. Lastly, the Company has agreed to indemnify Paramount against certain liabilities, including liabilities under the Securities Act.

In connection with the 2006 Offering, on May 3, 2006, the Company paid Paramount a cash commission equal to 7% of the gross proceeds from the sale of the Shares sold by Paramount in the 2006 Offering, resulting in a cash payment of approximately $1.7 million. In addition, the Company issued 7-year warrants to the 2006 Placement Agents and their designees to purchase an aggregate of 799,126 shares (10 percent of the Shares sold in the Offering) of the Company s common stock, of which 532,750 were issued to Paramount at an exercise price of $5.09 per share.

On December 18, 2006 the Company paid Paramount a cash settlement of $180 thousand in exchange for Paramount s agreement to terminate certain of its rights under the 2005 and 2004 agreements. This amount was expensed in the year ended December 31, 2006.

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Mr. Timothy McInerney, who is a member of the Board of Directors of the Company, was a full-time employee of Paramount from 1992 through March 2007. In addition, Michael Weiser, a current member of the Board of Directors of the Company, and David M. Tanen, who was a member of the Board of Directors of the Company, were full-time employees of Paramount from July 1998 through November 2006, and July 1996 through August 2004, respectively. Mr. John Knox, our former Treasurer, was also a full-time Paramount employee.

In connection with the 2007 Offering, on February 23, 2007, the Company paid Paramount cash commissions equal to 6% of the gross proceeds from the sale of the shares sold by Paramount in the 2007 Offering, resulting in a cash payment of approximately $1.0 million. In addition, the Company issued 5-year warrants to the placement agents in the 2007 Offering and their designees to purchase an aggregate of 177,302 shares (3% of the shares sold in the 2007 Offering) of the Company s common stock at an exercise price of $5.75 per share, of which 97,536 were issued to Paramount.

During the year ended December 31, 2008, there were no related party transactions.

Mr. Timothy McInerney, who is a member of the Board of Directors of the Company, has been a Partner at Riverbank Capital Securities, Inc. since June 2007. In connection with the 2009 Private Placement, on September 15, 2009, the Company paid Riverbank Capital Securities, Inc. cash commissions equal to 3.325% of the gross proceeds from the sale of the shares sold by Riverbank Capital Securities, Inc. in the 2009 Private Placement, resulting in a payment of approximately $168 thousand. In addition, the Company issued 5-year warrants to the placement agents in the 2009 Private Placement and their designees to purchase an aggregate of 138,617 shares of the Company s common stock (5% of the shares sold in the September 2009 Offering) at an exercise price of $2.04 per share, of which 65,843 were issued to Riverbank Capital Securities, Inc.

On January 6, 2011, the Company entered into an Exclusive Channel Partner Agreement, or Channel Agreement, with Intrexon Corporation, or Intrexon (see Note 8 to the financial statements, Commitments and Contingencies, for additional disclosure relating to the Channel Agreement). Our director, Randal J. Kirk, is the CEO, a director, and the largest stockholder of Intrexon. During the year ended December 31, 2012, the Company paid Intrexon approximately $11.4 million, of which $6.5 million was for services already incurred and the remaining $4.9 million was for services expected to be incurred within a year. This amount has been included as part of prepaid expenses and other current assets on the accompanying balance sheet as of December 31, 2012. The Company does not owe any amounts to Intrexon that have not already been accrued for as of December 31, 2012.

On January 25, 2012, Intrexon purchased 1,923,075 shares of common stock in the Company s public offering (see Note 2 to the financial statements, Financings).

On November 7, 2012, the Company issued 3,636,926 shares of common stock to Intrexon (see Note 11 to the financial statements, Preferred Stock and Stockholders Equity).

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8. Commitments and Contingencies

Operating Leases

Prior to December 31, 2011, the Company entered into an operating lease in New York, NY, consisting of 6,251 square feet of office space. In accordance with this agreement, the Company entered into a letter of credit in the amount of $388 thousand, naming the Company s landlord as beneficiary. In January 2012, the Company amended the lease agreement, adding 1,008 square feet of office space. As of December 31, 2012, the Company occupies 7,259 square feet of space in New York, NY, and maintains a $388 thousand letter of credit. The collateral for the letter of credit is recorded in other non-current assets on the balance sheet as of December 31, 2012. The lease for office space in New York, NY expires in October 2018.

Prior to December 31, 2011, the Company entered into separate operating lease agreements for various spaces in a building in Boston, MA. That space consisted of 5,249 square feet on the first floor, 8,538 square feet on the second floor, and 6,959 square feet on the third floor. As of December 31, 2011, the Company had paid a total of $86 thousand to its landlord for security deposits for these agreements. In June 2012, the Company re-negotiated a master lease for the entire Boston office space, added 9,800 square feet of office space on the fourth floor, surrendered 4,113 square feet from the second floor, and incorporated all floors lease agreements under the same master agreement expiring in August 2016. The Company provided an additional $41 thousand security deposit for the additional space on the fourth floor. As of December 31, 2012, the Company occupies 26,433 square feet of space in its Boston, MA office and has paid a total of $127 thousand for security deposits, which are recorded in other non-current assets on the balance sheet.

In April 2011, the Company entered into an operating lease for office space in Germantown, MD, consisting of 2,227 square feet. As December 31, 2011, the Company recorded the $4 thousand security deposit in other non-current assets on the balance sheet. The lease expires in March 2014. On July 16, 2012, the Germantown, Maryland office was closed.

Future minimum lease payments under operating leases as of December 31, 2012 are as follows (in thousands):

2013	$ 1,200
2014	1,209
2015	1,236
2016	997
2017	501
2018 and later	424
Total future minimum lease payments	$ 5,567

Total rent expense was approximately $1.1 million, $647 thousand, $398 thousand, and $4.2 million for the years ended December 31, 2012, 2011, 2010 and from September 9, 2003 (date of inception) to December 31, 2012, respectively.

The Company records rent expense on a straight-line basis over the term of the lease. Accordingly, the Company has recorded a liability for deferred rent at December 31, 2012 and

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

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2011 of $439 thousand ($39 thousand current and $400 thousand long-term) and $195 thousand ($15 thousand current and $180 thousand long-term), respectively, which is recorded in deferred rent on the balance sheet.

License Agreements

Patent and Technology License Agreement The University of Texas M. D. Anderson Cancer Center and the Texas A&M University System.

On August 24, 2004, the Company entered into a patent and technology license agreement with The Board of Regents of the University of Texas System, acting on behalf of The University of Texas M. D. Anderson Cancer Center and the Texas A&M University System, which the Company refers to, collectively, as the Licensors.

Under this agreement, the Company was granted an exclusive, worldwide license to rights (including rights to U.S. and foreign patent and patent applications and related improvements and know-how) for the manufacture and commercialization of two classes of organic arsenicals (water- and lipid-based) for human and animal use. The class of water-based organic arsenicals includes darinaparsin.

As partial consideration for the license rights obtained, the Company made an upfront payment in 2004 of $125 thousand and granted the Licensors 250,487 shares of the Company s common stock. In addition, the Company issued options to purchase an additional 50,222 shares outside the 2003 Stock Option Plan for $0.002 per share following the successful completion of certain clinical milestones, which vested with respect to 12,555 shares upon the filing of an Investigation New Drug application, or IND, for darinaparsin in 2005 and vested with respect to another 25,111 shares upon the completion of dosing of the last patient for both Phase 1 clinical trials in 2007. The Company recorded $120 thousand of stock based compensation expense related to the vesting in 2007. The remaining 12,556 shares will vest upon enrollment of the first patient in a multi-center pivotal clinical trial i.e. a human clinical trial intended to provide the substantial evidence of efficacy necessary to support the filing of an approvable New Drug Application, or NDA. In addition, the Licensors are entitled to receive certain milestone payments, including $100 thousand that was paid in 2005 upon the commencement of Phase 1 clinical trial and $250 thousand that was paid in 2006 upon the dosing of the first patient in the Registrant-sponsored Phase 2 clinical trial for darinaparsin. The Company may be required to make additional payments upon achievement of certain other milestones in varying amounts which on a cumulative basis could total up to an additional $4.5 million. In addition, the Licensors are entitled to receive single digit percentage royalty payments on sales from a licensed product and will also be entitled to receive a portion of any fees that the Company may receive from a possible sublicense under certain circumstances. In addition, the Company also paid the Licensors $100 thousand in 2006 and 2007 to conduct scientific research with the Company obtaining exclusive right to all resulting intellectual property rights. The sponsored research agreements governing this research and any related extensions expired in February 2008 with no payments being made subsequent to that date.

The license agreement also contains other provisions customary and common in similar agreements within the industry, such as the right to sublicense the Company rights under the

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agreement. However, if the Company sublicenses its rights prior to the commencement of a pivotal study i.e. a human clinical trial intended to provide the substantial evidence of efficacy necessary to support the filing of an approvable NDA, the Licensors will be entitled to receive a share of the payments received by the Company in exchange for the sublicense (subject to certain exceptions). The term of the license agreement extends until the expiration of all claims under patents and patent applications associated with the licensed technology, subject to earlier termination in the event of defaults by the Company or the Licensors under the license agreement, or if the Company becomes bankrupt or insolvent. No milestones under the license agreement were reached or expensed during the years ended December 31, 2010, 2011 or 2012.

License Agreement with DEKK-Tec, Inc.

On October 15, 2004, the Company entered into a license agreement with DEKK-Tec, Inc., pursuant to which it was granted an exclusive, worldwide license for palifosfamide. As part of the signing of license agreement with DEKK-Tec, the Company expensed an upfront $50 thousand payment to DEKK-Tec in 2004.

In consideration for the license rights, DEKK-Tec is entitled to receive payments upon achieving certain milestones in varying amounts which on a cumulative basis may total $4.0 million. Of the aggregate milestone payments, most will be creditable against future royalty payments as referenced below. The Company expensed a $100 thousand milestone payment upon achieving Phase 2 milestones during the year ended December 31, 2006.

Additionally, in 2004 the Company issued DEKK-Tec an option to purchase 27,616 shares of the Company s common stock for $0.02 per share. Upon the execution of the license agreement, 6,904 shares vested and were subsequently exercised in 2005 and the remaining options will vest upon certain milestone events, culminating with final FDA approval of the first NDA submitted by the Company (or by its sublicensee) for palifosfamide. DEKK-Tec is entitled to receive single digit percentage royalty payments on the sales of palifosfamide should it be approved for commercial sale. On March 16, 2010, the Company expensed a $100 thousand milestone payment upon receiving a United States Patent for palifosfamide. There were no payments made during 2009. In December 2010, the Company expensed a $300 thousand milestone payment and vested 6,904 stock options upon achieving Phase 3 milestones. These options were subsequently exercised in 2011. The Company s obligation to pay royalties will terminate on a country-by-country basis upon the expiration of all valid claims of patents in such country covering licensed product, subject to earlier termination in the event of defaults by the parties under the license agreement. No milestones under the license agreement have been reached or expensed since 2010.

License Agreement with Southern Research Institute

On December 22, 2004, the Company entered into an Option Agreement with the Southern Research Institute, or SRI, pursuant to which the Company was granted an exclusive option to obtain an exclusive license to SRI s interest in certain intellectual property, including exclusive rights related to certain isophosphoramide mustard analogs.

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Also on December 22, 2004, the Company entered into a Research Agreement with SRI pursuant to which the Company agreed to spend a sum not to exceed $200 thousand between the execution of the agreement and December 21, 2006, including a $25 thousand payment that was made simultaneously with the execution of the agreement, to fund research and development work by SRI in the field of isophosphoramide mustard analogs. The option agreement was exercised on February 13, 2007. Under the license agreement entered into upon exercise of the option, the Company is required to remit minimum annual royalty payments of $25 thousand until the first commercial sale of a licensed product. These payments were made for the years ended December 31, 2008, 2009, 2010, 2011 and 2012. The Company may be required to make payments upon achievement of certain milestones in varying amounts which on a cumulative basis could total up to $775,000. In addition, SRI will be entitled to receive single digit percentage royalty payments on the sales of a licensed product in any country until all licensed patents rights in that country which are utilized in the product have expired. No milestones under the license agreement were reached or expensed since the agreement s inception.

License Agreement with Baxter Healthcare Corporation

On November 3, 2006, the Company entered into a definitive Asset Purchase Agreement for indibulin and a License Agreement to proprietary nanosuspension technology with affiliates of Baxter Healthcare S.A. The purchase included the entire indibulin intellectual property portfolio as well as existing drug substance and capsule inventories. The terms of the Asset Purchase Agreement included an upfront cash payment of approximately $1.1 million and an additional $100 thousand payment for existing inventory, both of which were expensed in 2006. In addition to the upfront costs, the Asset Purchase Agreement includes additional diligence and milestone payments that could amount to approximately $8 million in the aggregate and royalties on net sales of products covered by a valid claim of a patent for the life of the patent on a country-by-country basis. The Company expensed a $625 thousand milestone payment upon the successful U.S. IND application for indibulin in 2007. The License Agreement requires payment of a $15 thousand annual patent and license prosecution/maintenance fee through the expiration of the last of the licensed patents which is expected to expire in 2025, and single digit royalties on net sales of licensed products covered by a valid claim of a patent for the life of the patent on a country-by-country basis. The term of the license agreement extends until the expiration of the last to expire of the patents covering the licensed products, subject to earlier termination in the event of defaults by the parties under the license agreement.

In October 2009, the Baxter License Agreement was amended to allow the Company to manufacture indibulin. No milestones under the license agreement were reached or expensed during the years ended December 31, 2010 or 2011. During the year ended December 31, 2012, a milestone of $250 thousand was reached and expensed.

Exclusive Channel Partner Agreement with Intrexon Corporation

On January 6, 2011, we entered into an Exclusive Channel Partner Agreement, or the Channel Agreement, with Intrexon that governs a channel partnering arrangement in which we use Intrexon s technology directed towards *in vivo* expression of effectors in connection with the

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development of ZIN-CTI-001 and ZIN-ATI-001 and generally to research, develop and commercialize products, in each case in which DNA is administered to humans for expression of anti-cancer effectors for the purpose of treatment or prophylaxis of cancer, which we collectively refer to as the Cancer Program. The Channel Agreement establishes committees comprised of representatives of us and Intrexon that govern activities related to the Cancer Program in the areas of project establishment, chemistry, manufacturing and controls, clinical and regulatory matters, commercialization efforts and intellectual property.

The Channel Agreement grants us a worldwide license to use patents and other intellectual property of Intrexon in connection with the research, development, use, importing, manufacture, sale, and offer for sale of products involving DNA administered to humans for expression of anti-cancer effectors for the purpose of treatment or prophylaxis of cancer, which we collectively refer to as the ZIOPHARM Products. Such license is exclusive with respect to any clinical development, selling, offering for sale or other commercialization of ZIOPHARM Products, and otherwise is non-exclusive. Subject to limited exceptions, we may not sublicense the rights described without Intrexon s written consent.

Under the Channel Agreement, and subject to certain exceptions, we are responsible for, among other things, the performance of the Cancer Program, including development, commercialization and certain aspects of manufacturing of ZIOPHARM Products. Intrexon is responsible for the costs of establishing manufacturing capabilities and facilities for the bulk manufacture of products developed under the Cancer Program, certain other aspects of manufacturing and costs of discovery-stage research with respect to platform improvements and costs of filing, prosecution and maintenance of Intrexon s patents.

Subject to certain expense allocations and other offsets provided in the Channel Agreement, we will pay Intrexon on a quarterly basis 50% of net profits derived in that quarter from the sale of ZIOPHARM Products, calculated on a ZIOPHARM Product-by- ZIOPHARM Product basis. We have likewise agreed to pay Intrexon on a quarterly basis 50% of revenue obtained in that quarter from a sublicensor in the event of a sublicensing arrangement. In addition, in partial consideration for each party s execution and delivery of the Channel Agreement, we entered into a Stock Purchase Agreement with Intrexon. (see Note 2 to the financial statements, Financings)

Following the first 24 months of the agreement, Intrexon may terminate the Channel Agreement if we fail to use diligent efforts to develop and commercialize ZIOPHARM Products or if we elect not to pursue the development of a Cancer Program identified by Intrexon that is a Superior Therapy as defined in the Channel Agreement. Also following the first 24 months of the agreement, we may voluntarily terminate the Channel Agreement upon 90 days written notice to Intrexon.

Upon termination of the Channel Agreement, we may continue to develop and commercialize any ZIOPHARM Product that, at the time of termination:

- is being commercialized by us;
- has received regulatory approval;
- is a subject of an application for regulatory approval that is pending before the applicable regulatory authority; or

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is the subject of at least an ongoing Phase 2 clinical trial (in the case of a termination by Intrexon due to an uncured breach or a voluntary termination by us), or an ongoing Phase 1 clinical trial in the field (in the case of a termination by us due to an uncured breach or a termination by Intrexon following an unconsented assignment by us or our election not to pursue development of a Superior Therapy).

Our obligation to pay 50% of net profits or revenue described above with respect to these retained products will survive termination of the Channel Agreement.

Collaboration Agreement with Harmon Hill, LLC

On April 8, 2008, the Company signed a collaboration agreement for Harmon Hill, LLC (Harmon Hill) to provide consulting and other services for the development and commercialization of oncology therapeutics by ZIOPHARM. Under the agreement the Company has agreed to pay Harmon Hill $20 thousand per month for the consulting services and has further agreed to pay Harmon Hill (a) $500 thousand upon the first patient dosing of the Specified Drug in a pivotal trial, which trial uses a dosing Regime introduced by Harmon Hill; and (b) provided that the Specified Drug receives regulatory approval from the FDA, the European Medicines Agency or another regulatory agency for the marketing of the Specified Drug, a 1% royalty of the Company s net sales will be awarded to Harmon Hill. If the Specified Drug is sublicensed to a third party, the agreement entitles Harmon Hill to 1% award of royalties or other payments received from a sublicense. Subject to renewal or extension by the parties, the term of the agreement was for a one year period that expired April 8, 2009. Following such expiration, the parties continued to operate under the terms of the agreement and, during 2010, the agreement was formally extended through April 8, 2011 and again through April 8, 2012. The agreement was extended through November 8, 2012 and has now expired. The Company expensed $240 thousand during the years ended December 31, 2010 and 2011 and expensed $200 thousand during the year ended December 31, 2012 for consulting services per the aforementioned agreement. No milestones under the collaboration agreement were reached or expensed during the years ended December 31, 2010, 2011 or 2012.

Collaboration Agreement with Solasia Pharma K.K.

On March 7, 2011, the Company entered into a License and Collaboration Agreement with Solasia Pharma K.K., or Solasia.

Pursuant to the License and Collaboration Agreement, the Company granted Solasia an exclusive license to develop and commercialize darinaparsin in both IV and oral forms and related organic arsenic molecules, in all indications for human use in a pan- Asian/Pacific territory comprised of Japan, China, Hong Kong, Macau, Republic of Korea, Taiwan, Singapore, Australia, New Zealand, Malaysia, Indonesia, Philippines and Thailand.

As consideration for the license, the Company received an upfront payment of $5.0 million to be used exclusively for further clinical development of darinaparsin outside of the pan-Asian/Pacific territory, and will be entitled to receive additional payments of up to $32.5 million in development-based milestones and up to $53.5 million in sales-based milestones. The Company

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will also be entitled to receive double digit royalty payments from Solasia based upon net sales of licensed products in the applicable territories, once commercialized, and a percentage of sublicense revenues generated by Solasia.

The upfront payment for research and development funding is earned over the period of effort. The Company currently estimates this period to be 75 months, which could be adjusted in the future.

Under the License and Collaboration Agreement, the Company provides Solasia with drug product to conduct clinical trials. These transfers are accounted for as a reduction of research and development costs and an increase in collaboration receivables.

The agreement provides that Solasia will be responsible for the development and commercialization of darinaparsin in the pan-Asian/Pacific territory.

CRO Services Agreement with PPD Development, L. P.

The Company is party to a Master Clinical Research Organization Services Agreement with PPD Development, L. P., or PPD, dated January 29, 2010, a related work order dated June 25, 2010 and a related work order dated April 8, 2011 under which PPD provides clinical research organization, or CRO, services in support of the Company s clinical trials. PPD is entitled to cumulative payments of up to $23.0 million under these arrangements, which is payable by the Company in varying amounts upon PPD achieving specified milestones. During the year ended December 31, 2010, the Company expensed $1.8 million upon contract execution and $1.1 million upon a clinical study commencement of enrollment in North America. During the year ended December 31, 2011, additional milestones related to commencing enrollment in Europe, Latin America and Asia along with enrollment based milestones were met and the Company recorded an aggregate $4.0 million expense. During the year ended December 31, 2012, additional enrollment-based and contract modification milestones were met and expensed totaling $3.8 million.

CRO Services Agreement with Pharmaceutical Research Associates, Inc.

On December 13, 2011, we entered into a Master Clinical Research Organization Services Agreement with Pharmaceutical Research Associates, Inc., or PRA, under which PRA provides CRO services in support of our clinical trials. PRA is entitled to cumulative payments of up to $19.7 million under these arrangements, which is payable by us in varying amounts upon PRA achieving specified milestones. During the year ended December 31, 2012, we expensed $7.3 million upon the achievement of various letter of intent and enrollment-based milestones.

CRO Services Agreement with Novella Clinical, Inc.

On December 4, 2008, we entered into a Master Clinical Research Organization Services Agreement with Novella Clinical, Inc., or Novella, under which PRA provides CRO services in support of our clinical trials. The work order for the newest trial being conducted by Novella was signed on November 2, 2012. Novella is entitled to cumulative payments of up to $789 thousand

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under these arrangements, which is payable by us in varying amounts upon Novella achieving specified milestones. During the year ended December 31, 2012, we expensed $256 thousand upon the achievement of various milestones.

9. Warrants

The Company has issued both warrants that are accounted for as liabilities and warrants that are accounted for as equity instruments.

The Company follows accounting standards that provide guidance in assessing whether an equity-issued financial instrument is indexed to an entity s own stock for purposes of determining whether a financial instrument should be treated as a derivative and classified as a liability. Accounting standards require that liability classified warrants be recorded at their fair value at each financial reporting period and the resulting gain or loss be recorded as other income (expense) in the Statements of Operations. Fair value is measured using the binomial valuation model.

In May 2005, the Company issued 419,786 warrants to placement agents for services performed in connection with the 2005 Offering, 11,083 of which were subsequently exercised. The remaining 408,703 warrants were originally valued at $1.6 million. Subject to certain exceptions, these warrants provide for anti-dilution protection should common stock or common stock equivalents be subsequently issued at a price less than the exercise price of the warrants then in effect, which was initially $4.75 per share. This provision was triggered in 2006 when stock was sold at $4.63 per share in the 2006 Offering. Accordingly, the warrants were re-priced at $4.69. The provision was triggered a second time with 2009 Private Placement when stock was sold at $1.825 per share and the warrants were subsequently re-priced at $4.25. The provision was triggered again with the Company s December 2009 public offering when stock was sold at $3.10 per share and the warrants were subsequently re-priced at $3.93. Using a Black-Scholes model, the warrants were valued at $72 thousand on January 1, 2009, when the accounting standard was adopted. The reclassification attributed to adoption of the standard had the following cumulative effect on the Balance Sheets:

	Liabilities		Stockholders equity	
(in thousands)	**Warrants**	**Warrants**		**Deficit accumulated during the development stage**
As reported on December 31, 2008	$	$ 20,504	$	(85,061)
Re-classification	72	(1,638)		1,566
Balance on January 1, 2009	$ 72	$ 18,866	$	(83,495)

The following Black-Scholes pricing assumptions were used at January 1, 2009:

	January 1, 2009
Risk-free interest rate	1.55%
Expected life in years	3.42
Expected volatility	102%
Expected dividend yield	0

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Also, in connection with the December 2009 public offering, the Company issued warrants to purchase an aggregate of 8,206,520 shares of common stock (including the investor warrants and 464,520 warrants issued to the Underwriters). The investor warrants are exercisable immediately and the underwriter warrants exercisable six months after the date of issuance. The warrants have an exercise price of $4.02 per share and have a five year term. The fair value of the warrants was estimated at $22.9 million using a Black-Scholes model with the following assumptions: expected volatility of 105%, risk free interest rate of 2.14%, expected life of five years and no dividends.

The Company assessed whether the warrants require accounting as derivatives. The Company determined that the warrants were not indexed to the Company s own stock in accordance with accounting standards codification Topic 815, *Derivatives and Hedging*. As such, the Company has concluded the warrants did not meet the scope exception for determining whether the instruments require accounting as derivatives and should be classified in liabilities.

On December 31, 2010, the liability-classified warrants were valued at $27.3 million using a Black-Scholes valuation model. The increase in the fair value of the warrant liabilities of $8.9 million for the year ended December 31, 2010 was credited to Other income, net in the Statements of Operations.

In December 2011, the Company changed from using a Black-Scholes pricing model to estimate the value of the liability-classified warrants to a Binomial/Monte Carlo pricing model. Accordingly, on December 31, 2011, the liability-classified warrants were valued at $19.4 million using the Binomial/Monte Carlo valuation model. The decrease in the fair value of the warrant liabilities of $7.6 million for the year ended December 31, 2011 was charged to Other income, net in the Statements of Operations. Additionally, $0.3 million of the decrease resulted from the exercise of warrants.

On December 31, 2012, the liability-classified warrants were valued at $13.0 million using a Binomial/Monte Carlo valuation model. The decrease in the fair value of the warrant liabilities of $6.1 million for the year ended December 31, 2012 was charged to Other income, net in the Statements of Operations.

The following pricing assumptions were used in the Binomial/Monte Carlo valuation model at December 31, 2012 and 2011 and the Black-Scholes valuation model at December 31, 2010:

	December 31, 2012	December 31, 2011	December 31, 2010
Risk-free interest rate	0.25%	0.05 0.35%	0.42 1.48%
Expected life in years	1.94	0.42 2.92	1.42 3.92
Expected volatility	70%	64 80%	75 116%
Expected dividend yield	0	0	0

Warrants accounted for as equity instruments include the following issuances:

During 2004, the Company issued warrants to purchase 62,621 shares of the Company s common stock to Paramount as compensation for services rendered in connection with our entering into an option agreement with Southern Research Institute. In connection with the warrants issued,

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

Notes to Financial Statements

the Company recorded a charge of $251 thousand to general and administrative expense. The Company has estimated the fair value of such options using the Black-Scholes model, using an assumed risk-free rate of 3.93%, and expected life of 7 years, volatility of 134% and dividend yield of 0%.

In 2005, the Company issued performance warrants to purchase 50,000 shares of the Company s common stock for services to be rendered to its investor relations consultant as compensation. In connection with the warrant issuance, 12,500 shares were exercisable immediately and the Company recorded a charge of $45 thousand to general and administrative expense in the year ended December 31, 2005. The Company has estimated the fair value of such options using the Black-Scholes model, using an assumed risk-free rate of 4.39%, an expected life of 5 years, volatility of 109%, and dividend yield of 0%. The remaining 37,500 warrants were cancelled in the year ended December 31, 2006 due to performance objectives not being obtained at the expiration of agreement.

In connection with the 2006 Offering completed on May 3, 2006, the Company issued warrants to purchase 2,397,392 shares of common stock to investors and 799,126 warrants to purchase common stock to the 2006 Placement Agents and their designees. The Company estimated the fair value of the warrants at $9.6 million and $3.5 million, respectively, using the Black-Scholes model, using an assumed risk-free rate of 5.01% and an expected life of 5 and 7 years, volatility of 100% and a dividend yield of 0%.

On February 23, 2007, as part of the 2007 Offering, the Company issued warrants to purchase 1,182,015 shares of common stock to investors and 177,302 warrants to purchase common stock to the placement agents in connection with the Company s 2007 private placement, their designees and a previously-engaged financial consultant. The Company estimated the fair value of the warrants at $4.7 million and $709 thousand respectively, using the Black-Scholes model, using an assumed risk-free rate of 4.71% and an expected life of 5 years, volatility of 93% and a dividend yield of 0%.

In connection with its 2009 private placement, the Company issued warrants to purchase an aggregate of 2,910,954 shares of common stock (including 138,617 warrants issued to the placement agents) which were exercisable immediately. The warrants have an exercise price of $2.04 per share and have a five year term. The fair value of the warrants was estimated at $4,207 thousand using a Black-Scholes model with the following assumptions: expected volatility of 105%, risk free interest rate of 2.41%, expected life of five years and no dividends. The fair value of the warrants was recorded in the equity section of the balance sheet. In October 2009, 136,986 of these warrants were exercised.

During 2010, no new warrants were issued. However, 95,505 warrants were exercised for 39,225 shares of common stock. Of these warrants, 70,738 were equity-classified and 24,767 were liability-classified. Additionally, 12,500 equity-classified warrants expired without being exercised.

During 2011, no new warrants were issued. However, 2,516,968 warrants were exercised for 2,377,571 shares of common stock. Of these warrants, 2,351,417 were equity-classified and 165,551 were liability-classified. Additionally, 277,910 equity-classified warrants expired without being exercised.

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

Notes to Financial Statements

During 2012, no new warrants were issued. However, 553,914 warrants were exercised for 259,660 shares of common stock. Of these warrants, 186,297 were equity-classified and 373,617 were liability-classified. Additionally, 1,359,317 equity-classified warrants and 579 liability-classified warrants expired without being exercised.

The following is a summary of warrants outstanding as of December 31, 2012.

Number of warrants	Issued in connection with	Exercise price	Expiration date
706,708	Placement warrants for services performed	$ 5.09	May 3, 2013
2,399,739	Investor warrants	$ 2.04	September 15, 2014
40,298	Placement warrants for services performed	$ 2.04	September 15, 2014
7,726,000	Investor warrants	$ 4.02	December 9, 2014
324,709	Underwriter warrants for services performed	$ 4.02	December 9, 2014
11,197,454			

10. Income Taxes

There is no provision for income taxes because the Company has incurred operating losses since inception. The reported amount of income tax expense for the years differs from the amount that would result from applying domestic federal statutory tax rates to pretax losses primarily because of the changes in the valuation allowance. Significant components of the Company s deferred tax assets at December 31, 2012 and 2011 are as follows:

(in thousands)	2012	December 31, 2011
Net operating loss carryforwards	$ 42,715	$ 18,283
Start-up and organizational costs	44,262	40,047
Research and development credit carryforwards	18,388	8,885
Stock compensation	991	702
Capitalized acquisition costs	13,270	6,400
Deferred revenue	1,388	
Depreciation	331	170
Other	998	306
	122,343	74,793
Less valuation allowance	(122,343)	(74,793)
Net deferred tax assets	$	$

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amount of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. At December 31, 2012, the Company has aggregate net operating loss carryforwards for federal tax purposes of approximately $111.5 million available to offset future federal taxable income to the extent permitted under the Internal Revenue Code of 1986, as amended, or IRC, expiring in varying amounts through 2031. Additionally, the Company has approximately $20.0 million of research and development credits at December 31, 2012, expiring

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

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in varying amounts through 2031, which may be available to reduce future taxes. The research and development credit expired at the end of December 31, 2011, as a result, the Company cannot recognize a benefit for the year ended December 31, 2012 related to the credits generated by qualified research expenditures, or QRE s, paid or incurred after December 31, 2011. The credit was reinstated in January 2013; a resulting benefit for the credit will be recorded in the first quarter of 2013.

Under the IRC Section 382, certain substantial changes in the Company s ownership may limit the amount of net operating loss carryforwards that can be utilized in any one year to offset future taxable income. The net operating loss carryforwards for the year ended December 31, 2012 includes approximately $4.1 million resulting from excess tax deductions from stock options. Pursuant to ASC 740, the deferred tax asset relating to excess tax benefits generated from exercises of stock options was not recognized for financial statement purposes.

Section 382 of the IRC provides limits to which a corporation that has undergone a change in ownership (as defined) can utilize any net operating loss, or NOL, and general business tax credit carryforwards it may have. The Company commissioned an analysis to determine whether Section 382 could limit the use of its carryforwards in this manner. After completing the analysis, it was determined an ownership change had occurred in February 2007. As a result of this change, the Company s NOL s and general business tax credits from February 23, 2007 and prior would be completely limited under IRC Section 382. The deferred tax assets related to NOL s and general business credits have been reduced by $11.2 million and $636 thousand, respectively, as a result of the change. The losses may be further limited under Section 382 as the analysis has not been updated through 2012.

The Company has provided a valuation allowance for the full amount of these net deferred tax assets, since it is more likely than not that these future benefits will not be realized. However, these deferred tax assets may be available to offset future income tax liabilities and expenses. The valuation allowance increased by $47.6 million primarily due to net operating loss carryforwards, start-up and organizational costs, and the increase in research and development credits.

A reconciliation of income tax expense/(benefit) at the statutory federal income tax rate and income taxes as reflected in the financial statements is as follows:

	Year ended December 31,		
(in thousands)	**2012**	**2011**	**2010**
Federal income tax at statutory rates	34.0%	34.0%	34.0%
State income tax, net of federal tax benefit	4.6%	6.0%	4.3%
Research and development credits	9.7%	11.1%	0.0%
Stock compensation	(1.0)%	(0.5)%	(0.1)%
Uncertain tax position adjustment	0.0%	0.0%	(15.4)%
Change in warrant value	2.1%	3.7%	(9.3)%
Federal R&D tax grant	0.0%	0.0%	0.8%
Other	0.0%	0.0%	1.5%
Increase in valuation allowance	(49.4)%	(54.2)%	(15.8)%
Effective tax rate	0.0%	0.0%	0.0%

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

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The Company adopted ASC740, Accounting for Uncertain Tax Positions on January 1, 2007. ASC740 clarifies the accounting for uncertainty in income taxes recognized in an enterprise s financial statements in accordance with FASB Statement No. 109, Accounting for Income Taxes. ASC 740 prescribes a recognition threshold and measurement of a tax position taken or expected to be taken in a tax return. The Company did not establish any additional reserves for uncertain tax liabilities upon adoption of ASC 740. A summary of the company s adjustments to its uncertain tax positions in the years ended December 31, 2012, 2011, and 2010 are as follows:

(in thousands)	
Balance at December 31, 2009	$ 238
Increase/Decrease for tax positions related to the current year	
Increase/Decrease for tax positions related to prior years	37
Decreases for settlements with applicable taxing authorities	
Decreases for lapses of statute of limitations	
Balance at December 31, 2010	275
Increase/Decrease for tax positions related to the current year	
Increase/Decrease for tax positions related to prior years	
Decreases for settlements with applicable taxing authorities	
Decreases for lapses of statute of limitations	
Balance at December 31, 2011	$ 275
Increase/Decrease for tax positions related to the current year	
Increase/Decrease for tax positions related to prior years	
Decreases for settlements with applicable taxing authorities	
Decreases for lapses of statute of limitations	
Balance at December 31, 2012	$ 275

The Company has not recognized any interest and penalties in the statement of operations because of the Company s net operating losses and tax credits that are available to be carried forward. When necessary, the Company will account for interest and penalties related to uncertain tax positions as part of its provision for federal and state income taxes. The Company does not expect the amounts of unrecognized benefits will change significantly within the next twelve months.

The Company is currently open to audit under the statute of limitations by the Internal Revenue Service and state jurisdictions for the years ended December 31, 1999 through 2012.

11. Preferred Stock and Stockholders Equity

On April 26, 2006, the date of the Company s annual stockholders meeting that year, the shareholders approved the adoption of an Amended and Restated Certificate of Incorporation pursuant to which the Company has 280,000,000 shares of authorized capital stock, of which 250,000,000 shares are designated as common stock (par value $.001 per share), and 30,000,000 shares are designated as preferred stock (par value $.001 per share), which the Company refers to as the Preferred Stock.

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

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Common Stock

In September 2003, the Company issued 1,001,949 shares of common stock at $0.50 per share for gross proceeds of $500 thousand.

In January 2004, the Company issued 9,017,538 shares of common stock at $0.50 per share for gross proceeds of $4.5 million.

In February 2004, the Company amended its articles of incorporation to provide for the combination of the Company s common stock, par value $0.001 per share on a 1-for-4 basis.

On June 6, 2005, the Company completed the 2005 Offering (see Note 2 to the financial statements, Financings). As a result of the Merger, all shares of the Series A Preferred Stock were automatically converted into the number of shares of common stock that the holders of Series A Preferred Stock would have received if their shares of Series A Preferred Stock had been converted into common stock immediately prior to the Merger.

On May 3, 2006, pursuant to subscription agreements between the Company and certain institutional and other accredited investors, the Company completed the sale of an aggregate of 7,991,256 shares of the Company s common stock at a price of $4.63 per share in the 2006 Offering. The total gross proceeds resulting from the 2006 Offering was approximately $37 million, before deducting selling commissions and expenses.

On February 23, 2007, pursuant to subscription agreements between the Company and certain institutional and other accredited investors, the Company completed the sale of an aggregate of 5,910,049 shares of the Company s common stock at a price of $5.225 per share in a private placement. The total gross proceeds resulting from the 2007 Offering was approximately $30.9 million, before deducting selling commissions and expenses.

On September 15, 2009, pursuant to subscription agreements between the Company and certain institutional and other accredited investors, the Company completed the sale of an aggregate of 2,772,337 shares of the Company s common stock at a price of $1.825 per share in a private placement. The total gross proceeds resulting from the September 2009 Offering was approximately $5.1 million, before deducting selling commissions and expenses (see Note 2 to the financial statements, Financings).

On December 9, 2009, pursuant to underwriting agreement between the Company and certain brokers, the Company completed the sale of an aggregate of 15,484,000 shares of the Company s common stock at a price of $3.10 per share in a private placement. The total gross proceeds resulting from the 2009 public offering was approximately $48.0 million, before deducting selling commissions and expenses (see Note 2 to the financial statements, Financings).

On June 2, 2010, pursuant to underwriting agreement between the Company and certain brokers, the Company completed the sale of an aggregate of 7,000,000 shares of the Company s common stock at a price of $5.00 per share in a public offering. The total gross proceeds resulting from the 2010 public offering were approximately $35.0 million, before deducting selling commissions and expenses (see Note 2 to the financial statements, Financings).

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

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On January 6, 2011, and in conjunction with the Company s execution and delivery of a Channel Agreement, the Company entered into a Stock Purchase Agreement and Registration Rights Agreement. On January 12, 2011, and pursuant to that Stock Purchase Agreement, the Company sold 2,426,235 shares of the Company s common stock in a private placement for a total purchase price of $11.6 million, or $4.80 per share. The Company simultaneously issued an additional 3,636,926 shares of its common stock for a cash purchase price equal to the $0.001 par value of such shares, which price was deemed paid in partial consideration for the execution and delivery of the Channel Agreement (see Note 2, Financings).

On February 3, 2011, pursuant to underwriting agreement between the Company and certain brokers, the Company completed the sale of an aggregate of 11,040,000 shares of the Company s common stock at a price of $5.75 per share in a public offering. The total gross proceeds resulting from the 2011 public offering were approximately $63.5 million, before deducting selling commissions and expenses (see Note 2 to the financial statements, Financings).

On January 20, 2012, pursuant to an underwriting agreement between the Company and J. P. Morgan Securities LLC, as representative of the several underwriters named therein, the Company completed the sale of an aggregate 10,114,401 shares of the Company s common stock at a price of $5.20 per share in a public offering. The total gross proceeds resulting from the 2012 public offering were approximately $52.6 million, before deducting selling commissions and expenses (see Note 2 to the financial statements, Financings).

On November 7, 2012, the Company issued 3,636,926 shares of our common stock, which we refer to as the Milestone Shares, to Intrexon under the terms of its Stock Purchase Agreement with Intrexon dated January 6, 2011. Under the terms of the Stock Purchase Agreement with Intrexon, the Company agreed to issue the Milestone Shares under certain conditions upon dosing of the first patient in a ZIOPHARM-conducted Phase 2 clinical trial in the Unites States, or similar study as the parties may agree in a country other than the United States, of a product candidate that is created, produced, developed or identified directly or indirectly by us during the term of the Channel Agreement and that, subject to certain exceptions, involves DNA administered to humans for expression of anti-cancer effectors for the purpose of treatment or prophylaxis of cancer. On October 24, 2012, the Company initiated dosing in a Phase 2 study of ZIN-ATI-001 for unresectable Stage III or IV melanoma, triggering the issuance of the Milestone Shares.

As of December 31, 2012, the Company had 83,236,840 shares of common stock issued and outstanding and no shares of Preferred Stock issued and outstanding.

Series A Preferred Stock

All shares of Series A Preferred Stock have been converted into shares of common stock of the Company.

Preferred Stock

The Company s Board of Directors are authorized to designate any series of Preferred Stock, to fix and determine the variations in relative rights, preferences, privileges and restrictions as between and among such series.

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

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12. Stock Option Plan

The Company adopted the 2003 Stock Option Plan, or the 2003 Plan, in 2003, under which the Company initially reserved for the issuance of 1,252,436 shares of its common stock. The 2003 Plan was approved by the Company s stockholders on December 21, 2004. On June 23, 2010, June 4, 2009, April 25, 2007 and April 26, 2006, the dates of the Company s annual stockholders meetings during such years, the Company s stockholders approved amendments to the 2003 Plan increasing the total shares reserved by 3,000,000, 2,000,000, 2,000,000 and 750,000 shares, respectively, for a total of 9,002,436 shares. Upon approval of the 2012 Equity Incentive Plan, no additional stock awards may be granted under the 2003 Plan.

The Company adopted the 2012 Equity Incentive Plan, or the 2012 Plan, in May 2012, under which the Company initially reserved for the issuance of 4,000,000 shares of its common stock. The 2012 Plan was approved by the Company s stockholders on June 20, 2012.

As of December 31, 2012, the Company had outstanding options issued to its employees to purchase up to 6,284,408 shares of the Company s common stock, to its directors to purchase up to 862,645 shares of the Company s common stock, as well as options to consultants in connection with services rendered to purchase up to 250 shares of the Company s common stock.

Stock options to employees generally vest ratably over three years and have contractual terms of ten years. Stock options to directors generally vest ratably over two or three years and have contractual terms of ten years. Stock options are valued using the Black-Scholes option pricing model and compensation is recognized based on such fair value over the period of vesting on a straight-line basis. The Company has also reserved an aggregate of 45,823 additional shares for issuance under options granted outside of the 2003 Stock Option Plan. The options were granted to The University of Texas M. D. Anderson Cancer Center and DEKK-Tec, Inc. (see Note 8 to the financial statements, Commitments and Contingencies). During the year ended December 31, 2007, the Company recorded a $120 thousand stock compensation expense in connection with the Company achieving a predetermined development milestone, which triggered the vesting of 25,111 of the options granted outside of the 2003 Stock Option Plan. The 25,111 options were exercised on August 13, 2007. Proceeds from this exercise amounted to $50 thousand and the intrinsic value of these options amounted to $104 thousand. During 2010, the Company recorded an expense of $27 thousand when 6,904 DEKK-Tec stock options vested upon achieving Phase 3 milestones.

Proceeds from the 2012, 2011, and 2010 exercises amounted to $30 thousand, $980 thousand, and $225 thousand, respectively. The intrinsic value of these options amounted to $11 thousand, $2.5 million and $880 thousand for years ended December 31, 2012, 2011 and 2010, respectively.

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

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Transactions under the Plan for the years ending December 31, 2012, 2011, and 2010 were as follows:

(in thousands, except share and per share data)	Number of shares	Weighted-average exercise price	Weighted-average contractual term (years)	Aggregate intrinsic value
Outstanding, December 31, 2009	3,534,686	$ 2.82		
Granted	1,293,000	4.55		
Exercised	(196,167)	1.19		
Cancelled	(64,584)	4.36		
Outstanding, December 31, 2010	4,566,935	2.82		
Granted	1,894,300	5.65		
Exercised	(479,666)	2.04		
Cancelled	(843,083)	5.01		
Outstanding, December 31, 2011	5,138,486	4.08		
Granted	2,309,650	4.36		
Exercised	(8,300)	3.61		
Cancelled	(292,533)	5.70		
Outstanding, December 31, 2012	7,147,303	$ 4.11	7.26	$ 3,973
Vested and unvested expected to vest at December 31, 2012	7,096,125	$ 3.56	5.28	$ 3,944
Options exercisable, December 31, 2012	3,683,786	$ 3.56	5.28	$ 3,972
Options exercisable, December 31, 2011	2,911,186	$ 3.21	5.52	$ 4,232
Options available for future grant	1,706,020			

At December 31, 2012, total unrecognized compensation costs related to non-vested stock options outstanding amounted to $9.9 million. The cost is expected to be recognized over a weighted-average period of 1.73 years.

Restricted Stock

In March and April 2010, the Company issued 90,000 and 25,000 shares of restricted stock to its non-employee directors, respectively, all of which vested in their entirety on the one year anniversary of the grant date. In December 2009, the Company issued 347,500 shares of restricted stock to employees and 45,000 shares of restricted stock to its non-employee directors, which vested ratably in annual installments over three and two years, respectively, commencing on the first anniversary of the grant date. In September 2009, the Company issued 828,000 shares of restricted stock to employees and 180,000 shares of restricted stock to its board of directors, all of which vested in their entireties on the one year anniversary of the grant date. In December 2008, the Company issued 396,500 shares of restricted stock to employees and 90,000 shares of restricted stock to its board of directors, all of which vested in December 2009. Also, in January 2008, the Company issued 100,000 shares of restricted stock to one employee which vested

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

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ratably over a three-year period. In 2007, the Company issued 70,000 shares of restricted stock to several employees which vested in December 2008. During the years ended December 31, 2012, 2011 and 2010, $1.7 million, $635 thousand and $2.4 million of compensation expense was recognized, respectively.

In July and December 2012, the Company repurchased 15,740 and 107,413 shares at $6.06 and $4.19 per share, respectively, to cover payroll taxes. In January and December 2011, the Company repurchased 15,190 shares and 44,369 shares at $5.14 and $4.41 per share, respectively, to cover payroll taxes. In January, September and December 2010, the Company repurchased 15,283 shares, 349,710 shares and 51,116 shares at $3.10, $3.95 and $4.66 per share, respectively, to cover payroll taxes. In December 2009, the Company repurchased 103,823 shares of vested restricted stock from employees at $3.66 per share to cover payroll taxes. A summary of the status of non-vested restricted stock as of December 31, 2012, 2011 and 2010 is as follows:

	Number of shares	Weighted-average grant date fair value
Non-vested, December 31, 2009	1,467,167	$ 2.30
Granted	115,000	5.15
Vested	(1,182,164)	2.19
Cancelled	(51,250)	4.40
Non-vested, December 31, 2010	348,753	2.30
Granted	848,406	4.52
Vested	(229,586)	3.56
Cancelled	(16,667)	2.85
Non-vested, December 31, 2011	950,906	4.34
Granted	258,032	4.39
Vested	(351,829)	4.32
Cancelled	(123,370)	4.34
Non-vested, December 31, 2012	733,739	$ 4.37

As of December 31, 2012, there was $2.8 million of total unrecognized stock-based compensation expense related to non-vested restricted stock arrangements. The expense is expected to be recognized over a weighted-average period of 1.53 years.

13. Employee Benefit Plan

The Company sponsors a qualified 401(k) Retirement Plan under which employees are allowed to contribute certain percentages of their pay, up to the maximum allowed under Section 401(k) of the IIRC. The Company may make contributions to this plan at its discretion. The Company contributed approximately $266 thousand, $38 thousand, and $21 thousand to this plan during the years ended December 31, 2012, 2011, and 2010, respectively.

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ZIOPHARM Oncology, Inc. (a development stage enterprise)

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14. Selected Quarterly Information (Unaudited)

(in thousands, except per share amount)

Year ended December 31, 2012	First quarter	Second quarter	Third quarter	Fourth quarter
Revenue	$ 200	$ 200	$ 200	$ 200
Total operating expenses	18,833	23,166	21,927	39,043
Loss from operations	(18,633)	(22,966)	(21,727)	(38,843)
Change in fair value of warrants	(5,811)	(650)	3,945	8,566
Net (loss)	(24,470)	(23,613)	(17,824)	(30,225)
Loss per share, basic and diluted	$ (0.32)	$ (0.30)	$ (0.23)	$ (0.37)

Year ended December 31, 2011	First quarter	Second quarter	Third quarter	Fourth quarter
Revenue	$ 67	$ 200	$ 200	$ 200
Total operating expenses	27,993	13,048	14,409	16,617
Loss from operations	(27,926)	(12,848)	(14,209)	(16,417)
Change in fair value of warrants	(11,080)	2,115	13,388	3,160
Net (loss)	(39,008)	(10,724)	(802)	(13,244)
Loss per share, basic and diluted	$ (0.65)	$ (0.16)	$ (0.01)	$ (0.19)

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders

Medistem Inc.

We have audited the accompanying balance sheets of Medistem Inc. (the Company) as of December 31, 2012 and 2011, and the related statements of operations, changes in stockholders deficit and cash flows for each of the years then ended. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that were appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we do not express an opinion thereon. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Medistem Inc. as of December 31, 2012 and 2011, and the results of its operations and its cash flows for the years then ended, in conformity with U.S. generally accepted accounting principles.

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the financial statements, the Company has suffered recurring losses from operations, has negative working capital of $130,716, has an accumulated deficit of $13,309,214 and a stockholders' deficit of $384,942 as of December 31, 2012 and has no current source of revenues. These factors, among others discussed in Note 1, raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ Squar, Milner, Peterson, Miranda & Williamson, LLP

San Diego, California

July 8, 2013

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Medistem Inc.

Balance Sheets

	December 31, 2012	2011
Assets		
Current Assets:		
Cash	$ 6,654	$ 86,762
Prepaid expenses and other current assets		20,000
Total current assets	6,654	106,762
Property and equipment, net	6,983	14,375
Total assets	$ 13,637	$ 121,137
Liabilities And Stockholders Deficit		
Current Liabilities:		
Accounts payable	$ 64,443	$ 29,994
Other current liabilities	47,927	28,507
Current portion of convertible debt	25,000	25,000
Total current liabilities	137,370	83,501
Convertible debt, less current portion (including related party amounts of $258,521 and $128,298 at December 31, 2012 and 2011, respectively).	261,209	148,571
Total liabilities	398,579	232,072
Commitments		
Stockholders' deficit:		
Preferred stock, $0.0001 par value, 200,000,000 shares authorized none issued and outstanding		
Common stock, $0.0001 par value, 300,000,000 shares authorized, 13,257,801 and 7,606,982 issued and outstanding at December 31, 2012 and 2011, respectively	1,326	761
Paid-in capital	12,922,946	12,314,389
Accumulated deficit	(13,309,214)	(12,426,085)
Total stockholders' deficit	(384,942)	(110,935)
Total liabilities and stockholders' deficit	$ 13,637	$ 121,137

See accompanying notes to financial statements.

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Medistem Inc.

Statements of Operations

	Years ended December 31, 2012	2011
Revenues	$	$ 125,000
Operating expenses:		
Research and development	481,286	353,408
General and administrative	384,111	308,675
Total operating expenses	865,397	662,083
Operating loss	(865,397)	(537,083)
Other income (expense):		
Interest expense	(17,732)	(8,778)
Interest income		1,814
Total other income (expense)	(17,732)	(6,964)
Net loss	$ (883,129)	$ (544,047)
Net loss per share:		
Basic and diluted	$ (0.09)	$ (0.08)
Weighted average common shares outstanding		
Basic and diluted	10,296,741	6,803,922

See accompanying notes to financial statements.

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Medistem Inc.

Statements of Changes in Stockholders Deficit

	Common Stock		Preferred Stock		Paid in	Accumulated	
	Shares	Amount	Shares	Amount	Capital	Deficit	Total
Balance at December 31, 2010	6,496,982	$ 650			$ 11,750,480	$ (11,882,038)	$ (130,908)
Net loss						(544,047)	(544,047)
Issuance of common stock	610,000	61			304,939		305,000
Conversion of convertible debt to common stock	500,000	50			104,154		104,204
Amortization of stock-based compensation awards					154,816		154,816
Balance at December 31, 2011	7,606,982	$ 761			$ 12,314,389	$ (12,426,085)	$ (110,935)
Net loss						(883,129)	(883,129)
Issuance of common stock	392,033	39			295,337		295,376
Conversion of convertible debt to common stock	770,000	77			184,805		184,882
Amortization of stock-based compensation awards					25,768		25,768
Non-cash compensation Issuance of restricted common stock	4,414,786	442			87,854		88,296
Non-cash compensation issuance of common stock	74,000	7			14,793		14,800
Balance at December 31, 2012	13,257,801	$ 1,326			$ 12,922,946	$ (13,309,214)	$ (384,942)

See accompanying notes to financial statements

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Medistem Inc.

Statements of Cash Flows

	Years ended December 31, 2012	2011
Cash flows from operating activities:		
Net Loss	$ (883,129)	$ (544,047)
Adjustment to reconcile net loss to net cash used in operating activities:		
Depreciation	7,887	7,787
Non-cash interest on convertible debt	17,516	8,778
Stock based compensation	128,869	154,816
Changes in assets and liabilities:		
Withholding tax payable	19,419	15,011
Other current assets	20,000	(20,000)
Other assets		766
Accounts payable	34,449	2,674
Other current liabilities		(100,000)
Net cash used in operating activities	(654,989)	(474,215)
Cash flows from investing activities:		
Purchase of computer equipment	(495)	
Net cash used in investing activities	(495)	
Cash flows from financing activities:		
Proceeds from issuance of convertible notes	280,000	244,000
Proceeds from issuance of equity securities	295,376	305,000
Net cash provided by financing activities	575,376	549,000
Change in cash	(80,108)	74,785
Cash beginning of year	86,762	11,977
Cash end of year	$ 6,654	$ 86,762
Supplemental disclosure of cash flow information:		
Non-Cash investing and financing activities:		
Conversion of convertible debt into common stock	$ 184,882	$ 104,204

See accompanying notes to financial statements.

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Medistem Inc.

Notes to Financial Statements

Note 1. Organization, Going Concern, Risks and Uncertanties, and Summary of Significant Accounting Policies

Organization

Medistem Inc. (the Company) was organized under the laws of the State of Nevada as SCG Holdings, Inc. On November 4, 2005, SCG Holdings filed with the Secretary of State of Nevada an amendment to its Articles of Incorporation to effect a corporate name change to Medistem Laboratories, Inc.

On July 14, 2008, the Company filed with the Secretary of State of Nevada an amendment to its Articles of Incorporation to effect a corporate name change to Medistem Inc.

The Company s primary business objective is to develop and ultimately commercialize safe and efficacious adult stem cell therapies to address unmet medical needs. The Company anticipates that therapies generated using its product platform will be scalable and reimbursable.

Going Concern

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern, which contemplates, among other things, the realization of assets and satisfaction of liabilities in the ordinary course of business. The Company incurred continuing losses from operations and has negative working capital of $130,716, an accumulated deficit of $13,309,214 and a stockholders deficit of $384,942 at December 31, 2012 and has no current source of revenues. These factors, among other matters, raise substantial doubt about the Company s ability to continue as a going concern. A significant amount of additional capital will be necessary to advance the development of the Company s products to the point at which they may become commercially viable. The Company intends to fund operations, working capital and other cash requirements (consisting of accounts payable, accrued liabilities, amounts due to related parties and amounts due under various notes payable) for the fiscal year ending December 31, 2013 through debt and/or equity financing arrangements.

The Company is currently addressing the liquidity issue by seeking additional investment capital through private placements of common stock and debt. The Company believes cash on hand and funds expected to be received from additional private investment will be sufficient to meet liquidity needs for fiscal 2013. However, no assurance can be given that the Company will receive any funds in addition to the funds it has received to date.

The successful outcome of future activities cannot be determined at this time and there is no assurance that, if achieved, the Company will have sufficient funds to execute its intended business plan or generate positive operating results.

The financial statements do not include any adjustments related to this uncertainty and as to the recoverability and classification of asset carrying amounts or the amount and classification of liabilities that might result should the Company be unable to continue as a going concern.

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Medistem Inc.

Notes to Financial Statements

Risks and Uncertainties

The Company operates in an industry that is subject to intense competition, government regulation and rapid technological change. The operations are subject to significant risk and uncertainties including financial, operational, technological and regulatory risk, and the potential risk of business failure.

Use of Estimates

The Company prepares financial statements in conformity with generally accepted accounting principles (GAAP), which requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and reported amounts of revenues and expenses during the reporting periods. Significant estimates made by management include, among others, revenue recognition, realization of long-lived assets, valuation of derivative liabilities, estimating fair value associated with debt and equity transactions and valuation of deferred tax assets. Actual results could differ from those estimates.

Cash and Cash Equivalents

Accounting standards define "cash and cash equivalents" as any short-term, highly liquid investment that is both readily convertible to known amounts of cash and so near their maturity that they present insignificant risk of changes in value because of changes in interest rates. For the purpose of financial statement presentation, the Company considers all highly liquid investment instruments with original maturities of three months or less when purchased, or any investment redeemable without penalty or loss of interest, to be cash equivalents. As of December 31, 2012 and 2011, the Company had no assets that were classified as cash equivalents.

Property and Equipment

Property and equipment are stated at cost, net of accumulated depreciation and amortization. Depreciation and amortization is computed using the straight-line method over the estimated useful lives of the respective assets, generally three to five years. Leasehold improvements are amortized on a straight-line basis over the shorter of the assets' useful lives or lease terms.

Fair Value of Financial Instruments

The carrying amount of the Company s cash, accounts payable and accrued liabilities approximates their estimated fair values due to the short-term maturities of those financial instruments. The carrying amount of the notes payable approximates their fair value due to the short maturity of the notes and as the interest rate approximates current market interest rates for similar instruments.

The Company does not have any assets or liabilities that are measured at fair value on a recurring basis and, during the years ended December 31, 2012 and 2011, did not have any assets or liabilities that were measured at fair value on a nonrecurring basis.

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Medistem Inc.

Notes to Financial Statements

Concentrations of Credit Risks

Cash is maintained at one financial institution in a checking account. In October 2008, the Federal Deposit Insurance Corporation increased the maximum level of deposit insurance at financial institutions from $100,000 to $250,000. The Company s cash balances were below such insured amount at both December 31, 2012 and 2011.

Income Taxes

The Company has adopted the provisions of ASC 740-10-5, *"Accounting for Income Taxes"* which requires recognition of deferred tax liabilities and assets for the expected future tax consequences of events that have been included in the financial statements or tax returns. Under this method, deferred tax liabilities and assets are determined based on the difference between the financial statement and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. As the Company is in a significant net operating loss position, a valuation allowance has been created for all deferred tax assets as of December 31, 2012.

Long-lived Assets

ASC 360 *"Impairment or Disposal of Long-Lived Assets"* requires that long-lived assets be reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable.

The Company evaluates its long-lived assets for impairment annually or whenever changes in circumstances indicate that the carrying amount of the asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to future undiscounted cash flows expected to be generated by the asset. If assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amounts exceed the fair values of the assets. Assets to be disposed of are reported at the lower of carrying values or fair values, less costs of disposal.

Loss Per Share

Basic loss per share is computed by dividing net income available to common stockholders by the weighted average number of common shares outstanding during the period of computation. Diluted loss per share is computed similarly to basic loss per share except that the denominator is increased to include the number of additional common shares that would have been outstanding if potential common shares had been issued, if such additional common shares were dilutive. As the Company had net losses for all periods presented, basic and diluted loss per share are the same, any additional potential common shares, including potential shares related to convertible debt, have been excluded as their effect would be antidilutive.

As of December 31, 2012 and 2011, an aggregate of 3,638,273 and 4,090,868 potential common shares, respectively, related to outstanding convertible debt, stock options and warrants were excluded from the computation of diluted loss per share as their effect would have been antidilutive.

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Medistem Inc.

Notes to Financial Statements

Revenue Recognition

The Company recognizes revenues when such revenues are earned in accordance with the relevant agreements.

Stock Based Compensation

The Company accounts for stock-based compensation in accordance with ASC 718, " *Compensation Stock Compensation* " (ASC 718). ASC 718 requires companies to estimate the fair value of equity-based payment awards on the date of grant using an option-pricing model.

The Company estimates the fair value of stock options granted using the Black-Scholes-Merton option-pricing model.

The Company accounts for employee share-based payment awards classified as equity awards using the grant-date fair value method. The fair value of share-based payment transactions is recognized as an expense over the requisite service period, net of estimated forfeitures. The Company estimates forfeitures based on historical experience and anticipated future conditions.

When stock options are granted as consideration for services provided by consultants and other non-employees, the grant is accounted for based on the fair value of the consideration received or the fair value of the stock options issued, whichever is more reliably measurable. The fair value of the options granted is measured on a final basis at the end of the related service period and is recognized over the related service period using the accelerated method.

In accordance with ASC 718, restricted stock awards are measured at their grant date fair value. All restricted shares to employees and non-employees granted in 2012 were granted for nominal consideration; therefore their fair value was equal to the fair value on the date of issuance. The estimated fair value of the restricted stock of $0.20 per share is being recognized as compensation expense on a straight-line basis over the vesting period of five years.

Significant Recent Accounting Pronouncements

Management has evaluated significant recent accounting pronouncements that are not yet effective for the Company and does not believe any such pronouncements will have a significant effect on the Company s present or future financial statements.

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Medistem Inc.

Notes to Financial Statements

Note 2. Property and Equipment

Property and equipment consisted of the following:

	December 31, 2012	2011
Lab equipment	$ 23,250	$ 23,250
Office and computer equipment	8,182	7,687
Software	8,000	8,000
Total Property and equipment	$ 39,432	$ 38,937
Less: accumulated depreciation	(32,449)	(24,562)
Property and equipment, net	$ 6,983	$ 14,375

Depreciation expense was $7,887 and $7,787 for the years ended December 31, 2012 and 2011, respectively.

Note 3. Current Liabilties

	December 31, 2012	2011
Accounts payable	$ 64,443	$ 29,994
Current portion of convertible debt	25,000	25,000
Other current liabilities	47,927	28,507
Accounts payable and other current liabilities	$ 137,370	$ 83,501

The accounts payable balances reflect monies owed to the following: contract research organization overseeing the CHF trial being conducted at the Bakulev Scientific Center for Cardiovascular Surgery, intellectual property counsel, and corporate legal counsel. The other current liabilities balances reflect accrued payroll liabilities for the Company s estimated payroll taxes and employee withholdings.

Note 4. Convertible Debt

Convertible debt consists of the following:

	December 31, 2012	December 31, 2011

	Principal Balance	Accrued Interest	Principal Balance	Accrued Interest
5% Notes payable	$ 75,000	$ 3,209	$ 169,000	$ 4,570
6% Notes payable	200,000	8,000		
Total	$ 275,000	$ 11,209	$ 169,000	$ 4,570

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Medistem Inc.

Notes to Financial Statements

	December 31 2012	2011
On October 15, 2012, the Company issued, in a private placement, at par, a $50,000 two-year, unsecured, convertible note bearing interest at 5% per annum to Randber, LLC, an entity controlled by Vladimir Zaharchook-Williams, the Company s Vice Chairman. The note can be converted into 142,858 shares of common stock at any time. Cumulative interest accrued was $521 as of December 31, 2012.	$ 50,000	$
On May 1, 2012, the Company issued, in a private placement, at par, a total of $200,000, two-year, unsecured, convertible notes bearing interest at 6% per annum to two accredited investors. The holders can convert the principal and interest to common shares at a conversion price of $1.20 per share. Cumulative interest accrued was $8,000 as of December 31, 2012.	200,000	
On April 17, 2012, the Company issued, in a private placement, at par, a $30,000 two-year, unsecured, convertible note bearing interest at 5% per annum to an accredited investor with the option to convert into 40,000 shares of common stock at any time. On June 8, 2012, the investor converted the note. $125 of accrued interest was credited to paid-in capital.		
On December 6, 2011, the Company issued, in a private placement, at par, a $4,000 two-year, unsecured, convertible note bearing interest at 5% per annum to an accredited investor with the option to convert into 20,000 shares of common stock at any time. Cumulative interest accrued was $13 as of December 31, 2011. On July 18, 2012, the holder of the convertible note converted the note. $203 of accrued interest was credited to paid-in capital.		4,000
On September 26, 2011, the Company issued, in a private placement, at par, a $100,000 two-year, unsecured, convertible note bearing interest at 5% per annum to Vladimir Bogin, the Company s Chairman, with the option to convert into 500,000 shares of common stock at any time. Cumulative interest accrued was $1,250 as of December 31, 2011. On July 18, 2012, Dr. Bogin converted the note. $7,264 of accrued interest was credited to paid-in capital.		100,000
On April 1, 2011, the Company issued, in a private placement, at par, a $100,000 two-year, unsecured, convertible note bearing interest at 5% per annum to Randber, LLC, an entity controlled by Mr. Zaharchook-Williams with the option to convert into 500,000 shares of common stock at any time. On November 30, 2011, Randber converted the note. $4,204 of accrued interest was credited to paid-in capital.		
On March 25, 2011, the Company issued, in a private placement, at par, a $20,000 two-year, unsecured, convertible note bearing interest at 5% per annum to an accredited investor with the option to convert into 110,000 shares of common stock at any time. Cumulative interest accrued was $819 as of December 31, 2011. On July 18, 2012, the holder converted the note. $1,873 of accrued interest was credited to paid-in capital.		20,000

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Medistem Inc.

Notes to Financial Statements

	December 31 2012	2011
On January 31, 2011, the Company issued, in a private placement, at par, a $20,000 two-year, unsecured, convertible note bearing interest at 5% per annum to Dr. Bogin with the option to convert into 100,000 shares of common stock at any time. Cumulative interest accrued was $1,135 as of December 31, 2011. On July 18, 2012, Dr. Bogin converted the note. $1,417 of accrued interest was credited to paid-in capital.		20,000
On December 6, 2010, the Company issued, in a private placement, at par, a $25,000 two-year convertible note bearing interest at 5% per annum to an accredited investor and convertible at $0.20 per share. In December 2012, the Company entered into an Extension Agreement with the holder of the note. The Extension Agreement provided for the extension of the maturity date to December 2013. Cumulative interest accrued was $1,353 and $2,687 as of December 31, 2011 and December 31, 2012, respectively.	25,000	25,000
	$ 275,000	$ 169,000
Less: Current portion of Convertible Debt	(25,000)	(25,000)
Long-term Portion of Convertible Debt	$ 250,000	$ 144,000

Note 5. Stockholders Deficit

The Company is authorized to issue up to 200,000,000 shares of preferred stock. As of December 31, 2012, there were no preferred shares issued and outstanding. The Company has 15,000,000 shares designated as Series A Convertible Preferred with the remaining 185,000,000 shares undesignated.

During 2012, the Company received gross proceeds totaling $295,380 in exchange for: (i) 149,300 shares of common stock sold at $1.20; (ii) 8,500 shares of common stock sold at $1.18; (iii) 90,400 shares of common stock sold at $0.50; (iv) 123,000 shares of common stock from the exercise of an option at $0.29 per common share; and (v) 20,833 shares of common stock and 100,000 Common Stock Purchase Warrants exercisable for common stock for a period of five years from the date of the transaction at a per share exercise price of $0.35, sold at a unit price of $1.20. The $14,310 fair value of the warrants was classified as equity and recorded in paid-in-capital.

During 2012, the Company issued to Dr. Bogin 600,000 shares of common stock upon the conversion of principal and interest of two convertible notes payable. The Company also issued 170,000 shares of common stock to 2 accredited investors upon the conversion of principal and interest of two convertible notes payable.

During 2012, the Company issued 4,414,786 restricted shares as non-cash compensation to Dr. Bogin (1,714,286 shares), Mr. Zaharchook (1,142,857 shares), Sergey Sablin, a director of the Company (857,143 shares), and Thomas Ichim, President, Chief Scientific Officer and a director of the Company (514,286 shares), and Donald Dickerson, Chief Financial Officer of the Company

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Medistem Inc.

Notes to Financial Statements

(186,214 shares). These restricted shares will vest on the earliest of June 16, 2017, or the closing of an underwritten public offering of shares of Common Stock for gross proceeds of at least $20,000,000, or the occurrence of a change in control; provided that these shares may be repurchased by the Company for a nominal price if, before they vest, the Company has not raised at least $1,200,000 from stock sales or convertible note sales, provided the convertible notes are converted between June 16, 2012 and May 1, 2015. During 2012 the Company recorded $88,296 of compensation expense related to the restricted stock. The unamortized portion at December 31, 2012 was $794,661.

During 2012, the Company issued 74,000 shares to two consultants as non-cash compensation. These grants were expensed at the fair value of the issued shares.

During 2011, the Company received gross proceeds totaling $305,000 in exchange for 610,000 shares of common stock, 610,000 Common Stock Purchase Warrants exercisable for common stock for a period of five years from the date of the transaction at a per share exercise price of $0.75, and 610,000 Common Stock Purchase Warrants exercisable for common stock for a period of five years from the date of the transaction at a per share exercise price of $1.95. The $141,183 fair value of the warrants was classified as equity and recorded as paid-in-capital.

During 2011, the Company issued to Mr. Zaharchook 500,000 shares of common stock upon the conversion of principal and interest of a convertible note payable.

Note 6. Options and Warrants

Stock Options Granted During 2012 and 2011

During 2012, the Company issued an aggregate of 150,000 stock options to various employees, directors and consultants. The options have an exercise price of $0.35 per share, expire in ten years (or earlier in the event of termination) and are subject to vesting schedules tailored to the individual grant.

The Company estimated that the aggregate fair value of options issued in 2012 totaled $20,540 based on the Black-Scholes-Merton option pricing model using the following estimates: 2% risk free rate, dividend yield of nil, 113% volatility, and expected lives of 2.5 years. The Company is expensing all stock options on a straight line basis over their respective vesting periods. Typically, volatility would be based on actual trading volume. However, given the relative lack of volume, the Company developed and used an estimate of volatility of 113% based on a representative sample of peer companies.

In 2011, the Company issued an aggregate of 1,425,748 stock options to various employees, directors and consultants. The options have an exercise price of $0.35 per share, expire in five years (or earlier in the event of termination) and are subject to vesting schedules tailored to the individual grant.

The Company estimated that the aggregate fair value of options issued in 2011 totaled $138,217 based on the Black-Scholes-Merton option pricing model using the following estimates: 2% risk free rate, dividend yield of nil, 113% volatility, and expected lives of 2.5 years. The Company is

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Medistem Inc.

Notes to Financial Statements

expensing all stock options on a straight line basis over their respective vesting periods. Typically, volatility would be based on actual trading volume. However, given the relative lack of volume, the Company developed and used an estimate of volatility of 113% based on a representative sample of peer companies.

Summary of Stock Options

A summary of stock option transactions follows:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (In-The-Money) Options
Outstanding at December 31, 2010	590,120	$ 1.38	3.80	
Issued	1,425,748			
Exercised				
Cancelled				
Expired				
Outstanding at December 31, 2011	2,015,868	$ 0.73	3.73	
Issued	150,000			
Exercised	(123,000)			
Cancelled	(143,000)			
Expired	(26,120)			
Outstanding at December 31, 2012	1,873,748	$ 0.61	3.04	
Exercisable at December 31, 2012	1,798,748	$ 0.62	2.98	

On April 27, 2012, the Company issued 123,000 shares of common stock upon the exercise of an option at $0.29 per common share.

At December 31, 2012 total compensation cost related to non-vested option awards not yet recognized totaled $1,464 with a weighted average remaining vesting period of 2.5 years. The following summarizes the Company's outstanding options and their respective exercise prices at December 31, 2012:

Exercise	Number of

Price	Shares
$.030-.035	1,675,748
$1.25	100,000
$3.00	80,000
$10.00	14,000
$12.50	4,000

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Medistem Inc.

Notes to Financial Statements

Warrant Activity

Issue date	Expiration date	Exercise price	Number of warrants
April 1, 2011 October 31, 2011	Various	$ 0.75	610,000
April 1, 2011 October 31, 2011	Various	$ 1.95	610,000
April 19, 2012	April 19, 2017	$ 0.35	100,000

On April 19, 2012, the Company completed a private placement resulting in net proceeds of $25,000. Under the terms of the offering the Company issued a total of 20,833 shares, combined with 100,000 warrants, exercisable for a period of five years from the date of issuance at an exercise price of $0.35 per share. The $14,310 fair value of the warrants was allocated to paid-in-capital.

Between April 1, 2011 and October 31, 2011, the Company completed a private placement resulting in net proceeds of $305,000. Under the terms of the offering the Company issued a total of 610,000 units, each unit consisting of one share of common stock and two common stock purchase warrants, exercisable for a period of five years from the date of issuance at exercises prices of $0.75 and $1.95 per share, respectively. The net proceeds were allocated to common stock and warrants based on their relative fair values. The $141,183 fair value of the warrants was allocated to paid-in capital.

The fair value of the warrants issued in 2011 and 2012 were estimated at the date of grant using the Black-Scholes Merton option pricing model and the following assumptions: weighted average risk-free interest rate of 2%; dividend yield of nil; volatility factor of 113% and the expected life of the warrants of five years.

A summary of warrant activity is as follows for the years ended December 31, 2012, and 2011:

	Number of Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)
Outstanding at December 31, 2010	421,429	$ 15.29	0.23
Issued	1,220,000		
Exercised			
Cancelled			
Expired	(411,429)		

Outstanding at December 31, 2011	1,230,000	$	1.35	4.35
Issued	100,000			
Exercised				
Cancelled				
Expired				
Outstanding at December 31, 2012	1,330,000	$	1.28	3.42

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Medistem Inc.

Notes to Financial Statements

Note 7. Income Taxes

On January 1, 2009, the Company adopted the provisions of ASC 740-10, Income Taxes related to uncertain tax positions. As a result of the implementation, the Company recorded no liability for unrecognized tax benefits including accrued interest and penalties.

The Company s policy is to recognize interest and penalties accrued on any unrecognized tax benefits as a component of income tax expense.

The Company is subject to taxation in the United States and state jurisdictions. The Company s tax for 2004 and forward are subject to examination by the United States and tax years for 2010 and forward by the California tax authorities due to the carry forward of unutilized net operation losses.

Provision (benefit) for income taxes consists of the following: at December 31, 2012 and 2011 are as follows:

	2012	2011
Current:		
Federal		
State		
Total Current		

	2012	2011
Deferred:		
Federal		
State		
Total Deferred		
Total		

The provision (benefit) for income taxes differs from the amounts computed by applying the U.S. federal income tax rate of 34% to earnings before income taxes as follows:

	2012		2011	
	Amount	%	Amount	%
Tax computed at the federal statutory rate	$ (570,449)	34.00%	$ (184,976)	34.00%
State tax, net of federal tax benefit	(100,667)	6.00%	(32,643)	6.00%

Nondeductible expenses	(1,020,954)	60.85%	3,209	-0.59%
Prior year true-up		0.00%	3,765,095	-692.05%
Section 382 Limitation	1,319,506	-78.65%	1,025,512	-188.50%
Valuation Allowance	372,564	-22.21%	(4,576,197)	841.14%
Provision for income taxes	$	0.00%	$	0.00%

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Medistem Inc.

Notes to Financial Statements

Deferred tax assets and liabilities result from differences between the financial statement carrying amounts and the tax basis of existing assets and liabilities. The significant components of the deferred income tax assets and liabilities at December 31, 2012 and 2011 are as follows:

	2012	2011
Deferred Tax Assets Current		
Stock Based Compensation	$ 502,285	$ 132,875
Net Operating Loss		
	502,285	132,875
Deferred Tax Assets Long Term		
Depreciation	12,799	9,645
	12,799	9,645
	515,084	142,520
Valuation Allowance	(515,084)	(142,520)
Net deferred tax assets	$	$

The Company has established a valuation allowance on its deferred tax assets in which management believes that, based on a number of factors, including the available objective evidence it is more likely than not that deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during periods in which those temporary differences become deductible. A valuation allowance of $515,084 and $142,520 at December 31, 2012 and 2011, respectively, has been recognized to offset the net deferred tax assets as realization of such assets is uncertain.

As of December 31, 2012, the Company had net operating loss carryforwards of approximately $3,300,000 for federal purposes and $953,000 for state purposes available to reduce future taxable income for both federal and state income tax purposes. The net operating loss carryforwards will begin to expire in 2024 and 2032 for federal and state purposes, respectively.

The Company has not completed a formal Section 382/383 analysis regarding the limitation of net operating loss carryforwards. The Company does not presently plan to complete a formal Section 382/383 analysis, and until this analysis has been completed, the Company has removed the deferred tax assets for net operating losses generated through 2012 from its deferred tax asset schedule and has recorded a corresponding increase to valuation allowance.

The Company believes that in 2012 and 2011, it experienced ownership changes at times when its enterprise value was minimal. As a result of these ownership changes and the low enterprise values at such times, the Company's federal and California net operating loss carryforwards as of December 31, 2012 will likely be subject to annual limitation under IRC Section 382/383 and, more likely than not, will expire unused.

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Note 8. Commitments and Contingencies

Lease Commitments

The Company leases office space located at 9255 Towne Centre Drive, Suite 450, San Diego, California 92121, that serves as corporate headquarters. The lease term is month to month, and has a monthly base rent of $700.

Note 9. Subsequent Events

The Company has evaluated subsequent events through July 8, 2013, the date the financial statements were available to be issued, no events which require adjustments to, or disclosure in, the accompanying financial statements were noted except for the following:

From January 2013 to March 2013, the Company issued a total of 227,084 shares of common stock to four accredited investors for $170,000 in cash.

On March 16, 2013, the Company issued 8,333 shares of common stock to an accredited investor for $10,000 in cash.

On February 27, 2013, the Company issued 200,000 shares of common stock to an accredited investor for $100,000 in cash.

On February 27, 2013, the Company issued 50,000 shares of common stock to an accredited investor upon the exercise of a warrant with an exercise price of $0.75 per share.

On February 26, 2013, the Company issued to Mr. Zaharchook, at par, a $2,500 two-year, 5%, convertible note with a conversion price of $1.20 per share.

On February 15, 2013, the Company issued 10,417 to shares of common stock to an accredited investor for $12,500 in cash.

On January 18, 2013, the Company issued 8,334 shares of common stock to an accredited investor for $10,000 in cash.

On January 17, 2013, the Company issued, at par, a $10,000 two-year, two-year convertible note with a conversion price of $1.20 per share to an accredited investor.

In the three months ended March 31, 2013, the Company issued an aggregate of 2,083,000 stock options to various employees, directors and consultants. The options issued with an exercise price of $0.35, expire in ten years (or earlier in the event of termination) and are subject to schedules tailored to the individual grant.

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Medistem Inc.

Balance Sheets

	September 30, 2013 (Unaudited)	December 31, 2012
Assets		
Current Assets:		
Cash and equivalents	$ 510,886	$ 6,654
Total current assets	510,886	6,654
Property and equipment, net	1,070	6,983
Total assets	$ 511,956	$ 13,637
Liabilities and Stockholder s Deficit		
Current Liabilities:		
Accounts payable	$ 222,520	$ 64,443
Estimated payroll tax and employee withholdings	60,626	47,927
Current portion of convertible debt	246,252	25,000
Total current liabilities	529,398	137,370
Convertible Debt, less current portion (including related party amounts of $558,521 and $258,521 at September 30, 2013 and December 31, 2012, respectively.)	568,906	261,209
Total liabilities	1,098,304	398,579
Commitments and contingencies		
Stockholders' deficit:		
Preferred stock, $0.0001 par value, 200,000,000 shares authorized		
Common stock, $0.0001 par value, 300,000,000 shares authorized, 14,084,787 and 13,257,802 issued and outstanding at September 30, 2013 and December 31, 2012, respectively	1,397	1,326
Additional paid-in capital	13,577,690	12,922,946
Accumulated deficit	(14,165,435)	(13,309,214)
Total stockholders' deficit	(586,348)	(384,942)
Total liabilities and stockholders' deficit	$ 511,956	$ 13,637

See accompanying notes.

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Medistem Inc.

Statements of Operations

(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2013	2012	2013	2012
Revenues	$ 10,000	$	$ 10,000	$
Operating expenses				
Research and development	65,354	117,404	274,637	418,594
General and administrative	201,437	84,816	569,711	336,057
Total operating expenses	266,791	202,220	844,348	754,651
Operating loss	(256,791)	(202,220)	(834,348)	(754,651)
Interest expense	(10,169)	(3,334)	(21,874)	(13,662)
Net loss	$ (266,960)	$ (205,554)	$ (856,222)	$ (768,313)
Net loss per common share:				
Basic and diluted	$ (0.02)	$ (0.03)	$ (0.06)	$ (0.10)
Weighted average common shares outstanding				
Basic and diluted	13,706,401	8,170,401	13,495,344	7,953,310

See accompanying notes.

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Medistem Inc.

Statements of Cash Flows

(Unaudited)

	Nine Months Ended September 30,	
	2013	2012
Cash flows from operating activities:		
Net Loss	$ (856,222)	$ (768,313)
Adjustment to reconcile net loss to net cash used in operating activities:		
Depreciation	5,915	5,915
Non-cash interest on convertible debt	16,449	13,662
Stock based compensation	287,613	119,799
Changes in assets and liabilities:		
Estimated payroll tax and employee withholdings	12,700	15,362
Other current assets		20,000
Accounts payable	158,077	43,861
Net cash used in operating activities	(375,468)	(549,714)
Cash flows from investing activities:		
Purchase of computer equipment		(495)
Net cash used in investing activities		(495)
Cash flows from financing activities:		
Proceeds from issuance of convertible notes	512,500	200,000
Proceeds from issuance of equity securities	367,200	298,420
Net cash provided by financing activities	879,700	498,420
Net increase (decrease) in cash	504,232	(51,789)
Cash beginning of year	6,654	86,762
Cash end of period	$ 510,886	$ 34,973

See accompanying notes.

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Medistem Inc.

Notes to Unaudited Financial Statements

Note 1. Nature of Business and Basis of Presentation

Medistem Inc. (the Company) was organized under the laws of the State of Nevada as SCG Holdings, Inc. On November 4, 2005, SCG Holdings filed with the Secretary of State of Nevada an amendment to its Articles of Incorporation to effect a corporate name change to Medistem Laboratories, Inc.

On July 14, 2008, the Company filed with the Secretary of State of Nevada an amendment to its Articles of Incorporation to effect a corporate name change to Medistem Inc.

The Company s primary business objective is the discovery, development, and commercialization of adult stem cell products that address serious medical conditions.

The accompanying unaudited financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP) for interim financial information and with the instructions to Form 10-Q and applicable sections of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by GAAP for complete financial statements. In the opinion of management, all adjustments necessary to make the financial statements not misleading have been included. The balance sheet as of September 30, 2012 was derived from our audited financial statements. Operating results for the three and nine months ended September 30, 2013 are not necessarily indicative of the results that may be expected for the year ending December 31, 2013. For further information, refer to our Report on Form 10 for the year ended December 31, 2012, which includes audited financial statements and footnotes as of December 31, 2012 and for the years ended December 31, 2012 and 2011.

Note 2. Liquidity

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern, which contemplates, among other things, the realization of assets and satisfaction of liabilities in the ordinary course of business. The Company incurred a net loss of $856,222 in the nine month period ended September 30, 2013 and has a negative working capital of $18,512 and an accumulated deficit of $14,165,435 at September 30, 2013. The audit report dated July 8, 2013 from the Company s independent registered public accounting firm indicated that the Company s recurring losses from operations, negative working capital, significant accumulated deficit and lack of current sources of revenue raise substantial doubt about the Company s ability to continue as a going concern. A significant amount of additional capital will be necessary to advance the development of the Company s products to the point at which they may become commercially viable. The Company intends to fund operations, working capital and other cash requirements (consisting of accounts payable, accrued liabilities, amounts due to related parties and amounts due under various notes payable) for the fiscal year ending December 31, 2013 through debt and/or equity financing arrangements.

The Company is currently addressing the liquidity issue by seeking additional investment capital through private placements of common stock and debt. The Company believes cash on hand and funds expected to be received from additional private investment will be sufficient to meet

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Medistem Inc.

Notes to Unaudited Financial Statements

liquidity needs for fiscal 2013. However, no assurance can be given that the Company will receive any funds in addition to the funds it has received to date.

The successful outcome of future activities cannot be determined at this time and there is no assurance that, if achieved, the Company will have sufficient funds to execute its intended business plan or generate positive operating results.

The financial statements do not include any adjustments related to this uncertainty and as to the recoverability and classification of asset carrying amounts or the amount and classification of liabilities that might result should the Company be unable to continue as a going concern.

Note 3. Significant Accounting Policies

Use of Estimates

The Company prepares financial statements in conformity with accounting principles generally accepted in the United States of America (GAAP), which requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and reported amounts of revenues and expenses during the reporting periods. Significant estimates made by management include, among others, revenue recognition, realization of long-lived assets, valuation of derivative liabilities, estimating fair value associated with debt and equity transactions and valuation of deferred tax assets. Actual results could differ from those estimates.

Cash and Cash Equivalents

Accounting standards define "cash and cash equivalents" as any short-term, highly liquid investment that is both readily convertible to known amounts of cash and so near their maturity that they present insignificant risk of changes in value because of changes in interest rates. For the purpose of financial statement presentation, the Company considers all highly liquid investment instruments with original maturities of three months or less when purchased, or any investment redeemable without penalty or loss of interest, to be cash equivalents. As of September 30, 2013, the Company had no assets that were classified as cash equivalents.

Property and Equipment

Property and equipment are stated at cost, net of accumulated depreciation and amortization. Depreciation and amortization is computed using the straight-line method over the estimated useful lives of the respective assets, generally three to five years. Leasehold improvements are amortized on a straight-line basis over the shorter of the assets' useful lives or lease terms.

Intellectual Property

The Company expenses all of its patent-related costs and therefore does not carry any costs related to its intellectual property on its balance sheet.

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Medistem Inc.

Notes to Unaudited Financial Statements

Fair Value of Financial Instruments

The carrying amount of the Company s cash, accounts payable and accrued liabilities approximates their estimated fair values due to the short-term maturities of those financial instruments. The carrying amount of the notes payable approximates their fair value due to the short maturity of the notes and as the interest rate approximates current market interest rates for similar instruments.

The Company does not have any assets or liabilities that are measured at fair value on a recurring or non-recurring basis.

Concentrations of Credit Risks

Cash is maintained at two financial institutions in two checking accounts. As of September 30, 2013, the Federal Deposit Insurance Corporation s maximum level of deposit insurance at financial institutions was $250,000. The Company s cash balances were above such insured amounts at September 30, 2013.

Income Taxes

The Company follows the provisions of Accounting Standards Codification (ASC) topic 740-10-5, "Accounting for Income Taxes" which requires recognition of deferred tax liabilities and assets for the expected future tax consequences of events that have been included in the financial statements or tax returns. Under this method, deferred tax liabilities and assets are determined based on the difference between the financial statement and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. As the Company is in a significant net operating loss position, a valuation allowance has been recorded for all deferred tax assets as of September 30, 2013.

Long-lived Assets

ASC 360 "Impairment or Disposal of Long-Lived Assets" requires that long-lived assets be reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable.

The Company evaluates its long-lived assets for impairment annually or whenever changes in circumstances indicate that the carrying amount of the asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to future undiscounted cash flows expected to be generated by the asset. If assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amounts exceed the fair values of the assets. Assets to be disposed of are reported at the lower of carrying values or fair values, less costs of disposal.

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Medistem Inc.

Notes to Unaudited Financial Statements

Loss Per Common Share

Basic loss per common share is computed by dividing net income available to common stockholders by the weighted average number of common shares outstanding during the period of computation. Diluted loss per share is computed similarly to basic loss per share except that the denominator is increased to include the number of additional common shares that would have been outstanding if potential common shares had been issued, if such additional common shares were dilutive. As the Company had net losses for all periods presented, basic and diluted loss per common share are the same, since any potential common shares, have been excluded as their effect would be antidilutive.

As of September 30, 2013 an aggregate of 6,691,688 potential common shares related to outstanding convertible debt, stock options and warrants were excluded from the computation of diluted loss per share as their effect would have been antidilutive.

Revenue Recognition

The Company recognizes revenues when such revenues are earned in accordance with the relevant agreements.

Stock Based Compensation

The Company accounts for stock-based compensation in accordance with ASC 718, "Compensation - Stock Compensation" (ASC 718). ASC 718 requires companies to estimate the fair value of equity-based payment awards on the date of grant using an option-pricing model.

The Company estimates the fair value of stock options granted using the Black-Scholes-Merton option-pricing model.

In accordance with ASC 718, restricted stock awards are measured at their grant date fair value. All restricted shares to employees and non-employees granted in 2012 were granted for nominal consideration, therefore their fair value was equal to the fair value on the date of issuance. The estimated fair value of the restricted stock of $0.20 per share is being recognized as compensation expense on a straight-line basis over the vesting period of five years.

The Company accounts for employee share-based payment awards classified as equity awards using the grant-date fair value method. The fair value of share-based payment transactions is recognized as an expense over the requisite service period, net of estimated forfeitures. The Company estimates forfeitures based on historical experience and anticipated future conditions.

When stock options are granted as consideration for services provided by consultants and other non-employees, the grant is accounted for based on the fair value of the consideration received or the fair value of the stock options issued, whichever is more reliably measurable. The fair value of the options granted is measured on a final basis at the end of the related service period and is recognized over the related service period using the accelerated method.

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Medistem Inc.

Notes to Unaudited Financial Statements

Significant Recent Accounting Pronouncements

Management has evaluated significant recent accounting pronouncements that are not yet effective for the Company and does not believe any such pronouncements will have a significant effect on the Company s present or future financial statements.

Note 4. Property and Equipment

Property and equipment consists of the following:

	September 30, 2013	December 31, 2012
Lab equipment	$ 23,250	$ 23,250
Office and computer equipment	8,182	8,182
Software	$ 8,000	$ 8,000
Total Property and equipment	39,432	39,432
Less: accumulated depreciation	(38,362)	(32,449)
Property and equipment, net	$ 1,070	$ 6,983

Depreciation expense was $5,915 for both the nine months ended September 30, 2013 and 2012, respectively.

Note 5. Current Liabilities

Current liabilities consist of the following:

	September 30, 2013	December 31, 2012
Accounts Payable	$ 222,520	$ 64,443
Current Portion of Convertible Debt	246,252	25,000
Estimated payroll tax and employee withholdings	60,626	47,927
Accounts payable and other current liabilities	$ 529,398	$ 137,370

The accounts payable balances reflect monies owed to the following: contract research organization overseeing the CHF trial being conducted at the Bakulev Scientific Center for Cardiovascular Surgery, intellectual property counsel, corporate legal counsel, auditors and credit cards. As of September 30, 2013, we owed accrued payroll taxes of $60,626 to various governmental authorities. This amount remains unpaid. We may face significant penalties and our operations could be harmed should the U.S. government or other tax bodies exercise their various available

enforcement remedies to collect the unpaid payroll taxes.

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Medistem Inc.

Notes to Unaudited Financial Statements

Note 6. Convertible Debt

Convertible debt consists of the following:

	September 30, 2013		December 31, 2012	
	Principal Balance	Accrued Interest	Principal Balance	Accrued Interest
5% Notes Payable	$ 87,500	$ 6,696	$ 75,000	$ 3,209
6% Notes Payable	700,000	20,962	200,000	8,000
Total	$ 787,500	$ 27,658	$ 275,000	$ 11,209

Further information on the 5% Notes Payable and the 6% Notes Payable is presented in the following table:

	September 30, 2013	December 31, 2012
5% Notes		
On February 6, 2013, the Company issued, in a private placement, at par, a $2,500 two-year, unsecured, convertible note bearing interest at 5% per annum to Vladimir Zaharchook-Williams, the Company s Vice Chairman. The note can be converted into 7,143 shares of common stock at any time. Cumulative accrued interest was $96 as of September 30, 2013.	2,500	
On January 17, 2013, the Company issued, in a private placement, at par, a $10,000 two-year, unsecured, convertible note bearing interest at 5% per annum to an accredited investor. The note can be converted into 8,333 shares of common stock at any time. Cumulative accrued interest was $385 as of September 30, 2013.	10,000	
On October 15, 2012, the Company issued, in a private placement, at par, a $50,000 two-year, unsecured, convertible note bearing interest at 5% per annum to Randber, LLC, an entity controlled by Mr. Zaharchook-Williams. The note can be converted into 142,858 shares of common stock at any time. Cumulative interest accrued was $2,463 as of September 30, 2013.	50,000	50,000
On December 6, 2010, the Company issued, in a private placement, at par, a $25,000 two-year convertible note bearing interest at 5% per annum to an accredited investor. In December 2012, the Company entered into an Extension Agreement with the holder of the note. The Extension Agreement provided for the extension of the maturity date to December 2013. Cumulative interest accrued was $3,752 as of September 30, 2013.	25,000	25,000
Total 5% Notes	87,500	75,000

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Medistem Inc.

Notes to Unaudited Financial Statements

	September 30, 2013	December 31, 2012
6% Notes		
On August 19, 2013, the Company issued, in a private placement, at par, a $500,000 two-year, unsecured, convertible note bearing interest at 6% per annum to Randber, LLC, an entity controlled by Vladimir Zaharchook-Williams, the Company s Vice Chairman. The use of these funds is restricted. Prior to the use of these funds approval by Vladimir Zaharchook-Williams, or his registered assigns, is required. If the Company violates this restriction, the note shall become payable on demand. Provided, however, that to the extent any portion of the principal of this note is converted into stock or is repaid, an amount of the funds equal to such portion of the principal shall thereby automatically become unrestricted and shall be freely usable by the Company without any further requirement that Mr. Zaharchook-Williams' approval be obtained. The note can be converted into 1,000,000 shares of common stock at any time. Cumulative accrued interest was $3,462 as of September 30, 2013.	500,000	
On May 1, 2012, the Company issued, in a private placement, at par, a total of $200,000, two-year, unsecured, convertible notes bearing interest at 6% per annum to two accredited investors. The holders can convert the principal and interest to common shares at a conversion price of $1.20 per share. Cumulative interest accrued was $17,500 as of September 30, 2013.	200,000	200,000
Total 6% Notes	700,000	200,000
Total Debt	$ 787,500	$ 275,000
Less: Current portion of Convertible Debt Principal	(225,000)	(25,000)
Long-term Portion of Convertible Debt Principal	$ 562,500	$ 250,000

Interest expense associated with the convertible debt was $16,449 and $4,334 for the nine months ended September 30, 2013 and 2012 respectively. At September 30, 2013, the accrued interest balance on the 5% convertible notes and 6% convertible notes was 27,658.

Note 7. Equity Transactions

During the nine months ended September 30, 2013, the Company received gross proceeds totaling $367,200 in exchange for: (i) 27,084 shares of common stock sold at $1.20 per share; (ii) 7,000 shares of common stock sold at $1.00 per share, (iii) pursuant to a warrant exercise, 50,000 shares of common stock sold at $0.75 per share, (iv) 200,000 shares of common stock sold at $0.500 per share, (v) pursuant to a warrant exercise, 310,400 shares of common stock sold at $0.50 per share, (vi) pursuant to a warrant exercise, 100,000 shares of common stock sold at $0.35 per share.

During the nine and three months ended September 30, 2013, the Company recorded $26,500 and $6,500 of non-cash compensation expense associated with issuance of shares, respectively. The expenses were related to the April 2013 issuance of 100,000 shares of common stock to a

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Medistem Inc.

Notes to Unaudited Financial Statements

consultant and an August 2013 issuance of 32,500 shares to an employee. During the nine and three months ended September 30, 2012, the Company recorded $14,800 and $14,800 of non-cash compensation respectively, relating to the July 2012 issuance of 74,000 shares issued to two consultants.

During the nine months ended September 30, 2013, the Company recorded $132,444 of non-cash compensation expense related to a restricted stock award issued in 2012. The unamortized portion on non-cash compensation expense related to restricted stock at September 30, 2013 was $662,217.

Stock Options Granted During 2013

During the nine months ended September 30, 2013, the Company issued an aggregate of 2,273,000 stock options to various employees, directors and consultants. The options have an exercise price of $0.35 per share, expire in ten years (or earlier in the event of termination) and are subject to vesting schedules tailored to the individual grant.

The Company estimated that the aggregate fair value of options issued during the nine months ended September 30, 2013 totaled $271,993 based on the Black-Scholes-Merton option pricing model using the following estimates: 2% risk free rate, dividend yield of nil, 113% volatility, and expected lives of 2.5 years. The Company is expensing all stock options on a straight line basis over their respective vesting periods. Typically, volatility would be based on actual trading volume. However, given the relative lack of volume, the Company developed and used an estimate of volatility of 113% based on a representative sample of peer companies.

Summary of Stock Options

A summary of stock option transactions follows:

	Number Of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (In Years)	Aggregate Intrinsic Value (In-The-Money) Options
Outstanding at December 31, 2012	1,873,748	$ 0.61	3.04	
Issued	2,273,000	0.35		
Exercised				
Cancelled				
Expired	(100,000)	1.25		
Outstanding at September 30, 2013	4,046,748	$ 0.44	6.31	
Exercisable at September 30, 2013	2,516,948	$ 0.51	4.69	

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Medistem Inc.

Notes to Unaudited Financial Statements

At September 30, 2013 total compensation cost related to non-vested option awards not yet recognized totaled $144,154 with a weighted average remaining vesting period of 1.7 years. The following summarizes the Company's outstanding options and their respective exercise prices at September 30, 2013:

Exercise Price	Number of Shares
$0.30 - 0.35	3,948,748
$3.00	80,000
$10.00	14,000
$12.50	4,000
Outstanding at September 30, 2013	4,046,748

Warrant Activity

A summary of warrant activity is as follows for the nine months ended September 30, 2013:

	Number Of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (In Years)
Outstanding at December 31, 2012	1,330,000	$ 1.28	3.42
Issued	180,800	0.35	
Exercised	(300,800)	0.50	
Cancelled			
Expired	(10,000)	1.38	
Outstanding at September 30, 2013	1,200,000	$ 1.41	2.68
Exercisable at September 30, 2013	1,200,000	$ 1.41	2.68

Note 8. Subsequent Events

On October 30, 2013, the Company issued 100,000 shares of common stock to an accredited investor upon the exercise of an option with an exercise price of $0.18 per share

On October 7, 2013, the Company issued 200,000 shares of common stock to an accredited investor for $100,000 in cash.

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Annex A

AGREEMENT AND PLAN OF MERGER

BY AND AMONG

INTREXON CORPORATION,

XON CELLS, INC.

AND

MEDISTEM INC.

DATED AS OF DECEMBER 19, 2013

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AGREEMENT AND PLAN OF MERGER

This AGREEMENT AND PLAN OF MERGER, dated as of December 19, 2013 (this Agreement), by and among Intrexon Corporation, a Virginia corporation (Parent), XON Cells, Inc., a Nevada corporation and a wholly owned subsidiary of Parent (Merger Sub), and Medistem Inc., a Nevada corporation (the Company). Hereinafter, Parent, Merger Sub and the Company shall be referred to individually as a party or collectively as the parties.

RECITALS

WHEREAS, the respective Boards of Directors of Parent, Merger Sub and the Company have approved and adopted and declared advisable this Agreement and the merger of Merger Sub with and into the Company (the Merger) upon the terms and subject to the conditions of this Agreement and in accordance with the Nevada Revised Statutes (as amended, the NRS);

WHEREAS, the respective Boards of Directors of Parent, Merger Sub and the Company have determined that the Merger is in furtherance of and consistent with their respective business strategies and is in the best interest of their respective stockholders;

WHEREAS, for federal income tax purposes, it is intended that the Merger shall qualify as a reorganization within the meaning of Section 368(a) of the Internal Revenue Code of 1986, as amended (the Code), and the Treasury Regulations promulgated thereunder and this Agreement shall constitute a plan of reorganization within the meaning of Treasury Regulations Section 1.368-2(g) for purposes of Sections 368 and 354 of the Code;

WHEREAS, at the Effective Time, the outstanding shares of capital stock of the Company shall be converted into the right to receive the Merger Consideration (as defined herein); and

WHEREAS, as a condition to the willingness of, and an inducement to, Parent and Merger Sub to enter into this Agreement, contemporaneously with the execution and delivery of this Agreement, certain holders of shares of the Company s common stock are entering into the respective voting agreements in substantially the forms attached as Exhibit A attached hereto (the Voting Agreements); and certain holders of shares of the Company s common stock are entering into a lock-up agreement in substantially the form of Exhibit B attached hereto (the Lock-Up Agreements), under which such stockholder will agree not to sell any of the shares of Parent Common Stock he, she or it holds immediately following the Effective Time of the Merger for a period of 90 days following the Effective Time of the Merger.

NOW, THEREFORE, in consideration of the foregoing and the respective representations, warranties, covenants and agreements set forth in this Agreement and intending to be legally bound hereby, the parties hereto agree as follows:

ARTICLE I

THE MERGER

Section 1.1 The Merger. Upon the terms and subject to the satisfaction or waiver of the conditions set forth in this Agreement, and in accordance with the NRS, Merger Sub shall be merged with and into the Company. As a result of the Merger, at the Effective Time, the separate corporate existence of Merger Sub shall cease and the Company shall continue as the surviving corporation of the Merger (the Surviving Corporation). The name of the Surviving Corporation shall be XON Cells, Inc.

Section 1.2 Closing; Effective Time.

(a) Closing. The closing of the Merger (the Closing) will take place at 10:00 a.m., California time, on the second Business Day following the satisfaction or, if permitted pursuant to the terms of this Agreement,

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waiver of the conditions set forth in Article VI, at the offices of Troutman Sanders LLP, 1001 Haxall Point, Richmond, Virginia 23219 pursuant to the electronic or other remote exchange of documents and closing deliverables required by this Agreement, unless another date or place is agreed to in writing by the parties. The date on which the Closing occurs is referred to herein as the Closing Date.

(b) As promptly as practicable on the Closing Date, the parties shall cause the Merger to be consummated by filing the articles of merger (the Articles of Merger) with the Secretary of State of the State of Nevada, in such form as required by, and executed in accordance with, the relevant provisions of the NRS (the date and time of the filing of the Articles of Merger with the Secretary of State of the State of Nevada, or such later date and time as Parent and the Company shall agree in writing and specify in the Articles of Merger, being the Effective Time).

Section 1.3 Effect of the Merger. At the Effective Time, the Merger shall have the effects set forth in this Agreement, the Articles of Merger and in the applicable provisions of the NRS. Without limiting the generality of the foregoing, at the Effective Time, all the property, rights, privileges, powers and franchises of the Company and Merger Sub shall vest in the Surviving Corporation, and all debts, liabilities and duties of the Company and Merger Sub shall become the debts, liabilities and duties of the Surviving Corporation.

Section 1.4 Articles of Incorporation; Bylaws. Unless otherwise jointly determined by Parent and the Company prior to the Effective Time, Merger Sub s articles of incorporation (the Merger Sub Articles) and bylaws (the Merger Sub Bylaws and, together with the Merger Sub Articles, the Merger Sub Governing Documents) shall be the articles of incorporation and bylaws of the Surviving Corporation until thereafter changed or amended as provided therein or by applicable Law.

Section 1.5 Directors and Officers. The directors of Merger Sub immediately prior to the Effective Time shall be the initial directors of the Surviving Corporation, each to hold office in accordance with the articles of incorporation and bylaws of the Surviving Corporation. The officers of Merger Sub immediately prior to the Effective Time shall be the initial officers of the Surviving Corporation, each to hold office in accordance with the articles of incorporation and bylaws of the Surviving Corporation.

ARTICLE II

CONVERSION OF SECURITIES; EXCHANGE OF CERTIFICATES

Section 2.1 Effect on Capital Stock. At the Effective Time, by virtue of the Merger and without any action on the part of the holder of any shares of common stock, par value $0.0001 per share, of the Company (Company Common Stock), any other securities of the Company or any shares of capital stock or other securities of Merger Sub or, except as expressly set forth herein, on the part of Parent, the Company or Merger Sub:

(a) Capital Stock of Merger Sub. Each issued and outstanding share of capital stock of Merger Sub shall be converted into and become one validly issued, fully paid and nonassessable share of common stock, par value $0.0001 per share, of the Surviving Corporation, and shall thereupon constitute the only outstanding shares of capital stock of the Surviving Corporation. Each certificate evidencing ownership of such shares of common stock of Merger Sub shall thereafter evidence ownership of shares of common stock of the Surviving Corporation.

(b) Cancellation of Treasury Stock and Parent-Owned Stock. Any shares of Company Common Stock that are held by the Company as treasury stock, and any shares of Company Common Stock owned by Parent or Merger Sub or any of their respective subsidiaries, shall be automatically cancelled and shall cease to exist and no consideration shall be delivered in exchange therefor.

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(c) Conversion of Company Common Stock. Each issued and outstanding share of Company Common Stock (other than shares to be cancelled in accordance with Section 2.1(b) and the Dissenting Shares) shall thereupon be converted automatically into, and shall thereafter represent, the right to receive the following consideration (together, the Merger Consideration): (i) an amount in cash equal to $0.27 without interest (the Cash Consideration) and (ii) the number of validly issued, fully paid and non-assessable shares of Parent Common Stock determined by dividing (A) $1.08 by (B) the Parent Stock Value (the Stock Consideration).

(d) Parent Stock Value. For purposes of this Agreement, the Parent Stock Value shall be equal to the volume-weighted average price for a share of Parent Common Stock on the Exchange for the 20 consecutive trading days immediately preceding the last trading day prior to the Effective Time, subject to adjustment pursuant to Section 2.6. Parent and the Company shall, prior to the Effective Time, jointly provide written notice to the Exchange Agent stating the Parent Stock Value.

(e) As of the Effective Time, all such shares of Company Common Stock converted into the Merger Consideration pursuant to this Section 2.1 shall no longer be outstanding and shall automatically be cancelled and shall cease to exist, and the holders immediately prior to the Effective Time of shares of Company Common Stock not represented by certificates (Book-Entry Shares) and the holders of certificates which immediately prior to the Effective Time represented any shares of Company Common Stock (each, a Certificate) shall cease to have any rights with respect thereto, except the right to receive (i) the applicable Merger Consideration to be paid in consideration therefor upon surrender of such Book-Entry Share or Certificate in accordance with Section 2.2, (ii) cash in lieu of any fractional shares of Parent Common Stock to which such holder is entitled pursuant to Section 2.2(e) and (iii) any dividends or other distributions to which such holder is entitled pursuant to Section 2.2(c), in each case without interest and subject to any applicable withholding Taxes.

Section 2.2 Exchange of Certificates.

(a) Exchange Agent. Prior to the Effective Time, Parent shall designate American Stock Transfer & Trust Company, LLC, or such other bank or trust company selected by Parent with the Company s prior approval (which approval shall not be unreasonably withheld, conditioned or delayed) (the Exchange Agent) to act as agent for Parent for the purpose of, among other things, exchanging shares of Company Common Stock for the Merger Consideration and shall enter into an agreement reasonably acceptable to the Company with the Exchange Agent relating to the services to be performed by the Exchange Agent. Parent shall deposit, or cause to be deposited, such aggregate Merger Consideration with the Exchange Agent at or prior to the Effective Time. The Cash Consideration portion of such aggregate Merger Consideration deposited with the Exchange Agent shall, pending its disbursement to such holders, be invested by the Exchange Agent in (i) short-term direct obligations of the United States of America or (ii) short-term obligations for which the full faith and credit of the United States of America is pledged to provide for the payment of principal and interest. Any interest and other income from such investments shall become part of the funds held by the Exchange Agent for purposes of paying the Cash Consideration portion of the aggregate Merger Consideration, subject to Section 2.2(g). No investment by the Exchange Agent of the Cash Consideration portion of the aggregate Merger Consideration shall relieve Parent, the Surviving Corporation or the Exchange Agent from making the payments required by this Article II and Parent shall promptly replace any funds deposited with the Exchange Agent lost through any investment made pursuant to this Section 2.2(a). No investment by the Exchange Agent of the Cash Consideration portion of the aggregate Merger Consideration shall have maturities that could prevent or delay payments to be made pursuant to this Agreement. Following the Effective Time, Parent will make available to the Exchange Agent, from time to time as needed, additional cash or additional shares of Parent Common Stock to pay (A) the Merger Consideration as contemplated by this Article II, (B) cash in lieu of any fractional shares of Parent Common Stock pursuant to Section 2.2(e) and (C) any dividends or other distributions pursuant to Section 2.2(c) without interest.

(b) Payment Procedures. Promptly after the Effective Time (but in no event more than five Business Days thereafter), Parent shall cause the Exchange Agent to mail to each holder of record of Company Common Stock as of immediately prior to the Effective Time (i) a letter of transmittal (which shall (A) in the case of

shares of Company Common Stock represented by Certificates, specify that delivery shall be effected, and risk of loss and title to the shares of Company Common Stock represented by such Certificates shall pass, only upon proper delivery of such Certificates to the Exchange Agent, upon adherence to the procedures set forth in the letter of transmittal, (B) be in such customary form and have such other provisions as Parent and the Company may reasonably agree and (C) be prepared prior to the Effective Time) and (ii) instructions for use in effecting the surrender of the Certificates or Book-Entry Shares in exchange for payment of the Merger Consideration to which such holder is entitled pursuant to this Agreement. Following the Effective Time, upon surrender of Certificates for cancellation to the Exchange Agent or receipt of an agent s message by the Exchange Agent (or such other evidence, if any, of transfer as the Exchange Agent may reasonably request) in the case of Book-Entry Shares, together with such letter of transmittal, duly and properly completed and validly executed in accordance with the instructions (and such other customary documents as may reasonably be required by the Exchange Agent), the holder of such Certificates or Book-Entry Shares shall be entitled to receive in exchange therefor, subject to any required withholding Taxes, the Merger Consideration for each share of Company Common Stock surrendered, any cash in lieu of fractional shares of Parent Common Stock to which the holder is entitled pursuant to Section 2.2(e), and any dividends or other distributions to which such holder is entitled pursuant to Section 2.2(c) (in each case, without interest), and any Certificates or Book-Entry Shares so surrendered shall forthwith be cancelled. If payment of such Merger Consideration is to be made to a person other than the person in whose name the surrendered Certificate or Book-Entry Share is registered, it shall be a condition of payment that (A) the person requesting such exchange present proper evidence of transfer or shall otherwise be in proper form for transfer and (B) the person requesting such payment shall have paid any transfer and other Taxes required by reason of the payment of such Merger Consideration to a person other than the registered holder of such Certificate or Book-Entry Share surrendered or shall have established to the reasonable satisfaction of the Surviving Corporation that such Tax either has been paid or is not applicable. Until surrendered as contemplated by this Section 2.2, each Certificate and Book-Entry Share shall be deemed at any time after the Effective Time to represent only the right to receive (1) the applicable Merger Consideration, as contemplated by this Article II, (2) cash in lieu of any fractional shares of Parent Common Stock to which such holder is entitled pursuant to Section 2.2(e) and (3) any dividends or other distributions to which such holder is entitled pursuant to Section 2.2(c), in each case without interest and subject to any applicable withholding Taxes.

(c) Distributions with Respect to Unexchanged Shares of Parent Common Stock. No dividends or other distributions declared or made after the Effective Time with respect to shares of Parent Common Stock with a record date after the Effective Time will be paid to the holder of any unsurrendered Certificate or Book-Entry Share with respect to the shares of Parent Common Stock issuable on surrender thereof, and no cash payment with respect to the Cash Consideration or in lieu of fractional shares pursuant to Section 2.2(e) shall be paid to any such holder, until the surrender of such Certificate or Book-Entry Share in accordance with this Article II. Subject to the effect of escheat, Tax or other applicable Laws, following surrender of any such Certificate or Book-Entry Share, the holder of the Certificate or Book-Entry Share representing whole shares of Parent Common Stock issued in exchange therefor will be paid, without interest, (i) promptly, the amount of dividends or other distributions with a record date after the Effective Time and theretofore paid with respect to such whole shares of Parent Common Stock and (ii) on the appropriate payment date, the amount of dividends or other distributions, with a record date after the Effective Time but prior to surrender and a payment date occurring after surrender, payable with respect to such whole shares of Parent Common Stock.

(d) Transfer Books; No Further Ownership Rights in Company Common Stock. The applicable Merger Consideration paid in respect of shares of Company Common Stock upon the surrender for exchange in accordance with the terms of this Article II shall be deemed to have been paid in full satisfaction of all rights pertaining to the shares of Company Common Stock and, at the Effective Time, the stock transfer books of the Company shall be closed and thereafter there shall be no further registration of transfers on the stock transfer books of the Surviving Corporation of the shares

of Company Common Stock that were outstanding immediately prior to the Effective Time. From and after the Effective Time, the holders of Certificates or Book-Entry Shares that evidenced ownership of shares of Company Common Stock outstanding immediately prior to the Effective Time shall cease to have any rights with respect to such shares of Company Common Stock other than the right

to receive the applicable Merger Consideration, except as otherwise provided for herein or by applicable Law. Subject to the last sentence of Section 2.2(g), if, at any time after the Effective Time, Certificates are presented to the Surviving Corporation for any reason, they shall be cancelled and exchanged as provided in this Article II, subject to applicable law in the case of Dissenting Shares.

(e) No Fractional Shares. No certificate or scrip representing fractional shares of Parent Common Stock will be issued upon the conversion of Company Common Stock pursuant to Section 2.1(c), and such fractional share interests will not entitle the owner thereof to vote or to any other rights of a stockholder of Parent. As soon as reasonably practicable after the Effective Time, Parent will pay each holder of a fractional share interest an amount in cash (without interest and subject to any withholding Tax) equal to the product obtained by multiplying (i) such fractional share interest to which such holder (after taking into account all fractional share interests then held by such holder) would otherwise be entitled by (ii) the Parent Stock Value. As promptly as practicable after the determination of the amount of cash, if any, to be paid to holders of fractional share interests, the Exchange Agent will so notify Parent, and Parent will promptly deposit such amount with the Exchange Agent and will cause the Exchange Agent to forward payments to such holders of fractional share interests in accordance with the provisions of this Section 2.2.

(f) Lost, Stolen or Destroyed Certificates. If any Certificate shall have been lost, stolen or destroyed, upon the making of an affidavit of that fact by the person claiming such Certificate to be lost, stolen or destroyed and, if required by the Exchange Agent or the Surviving Corporation, the posting by such person of a bond, in such reasonable amount as Parent may direct, as indemnity against any claim that may be made against it with respect to such Certificate, the Exchange Agent will pay, in exchange for such lost, stolen or destroyed Certificate, the applicable Merger Consideration to be paid in respect of the shares of Company Common Stock formerly represented by such Certificate, any cash in lieu of fractional shares of Parent Common Stock to which such person is entitled pursuant to Section 2.2(e), and any dividends or other distributions to which such person is entitled pursuant to Section 2.2(c), in each case, as contemplated by this Article II.

(g) Termination of Fund. At any time following the first anniversary of the Effective Time, the Surviving Corporation shall be entitled to require the Exchange Agent to deliver to it any funds or other property (including any interest received with respect thereto) that had been made available to the Exchange Agent and which have not been disbursed in accordance with this Article II, and thereafter persons entitled to receive payment pursuant to this Article II shall be entitled to look only to Parent or the Surviving Corporation (subject to abandoned property, escheat or other similar Laws) as general creditors thereof with respect to the payment of any Merger Consideration, cash in lieu of any fractional shares of Parent Common Stock to which such holder is entitled pursuant to Section 2.2(e), and any dividends or other distributions to which such holder is entitled pursuant to Section 2.2(c), that may be payable upon surrender of any Company Common Stock held by such holders, as determined pursuant to this Agreement, in each case without any interest thereon and subject to any applicable withholding Taxes. Any amounts remaining unclaimed by such holders immediately prior to such time at which such amounts would otherwise escheat to or become property of any Governmental Entity shall become, to the extent permitted by applicable Law, the property of the Surviving Corporation, free and clear of all claims or interest of any person previously entitled thereto.

(h) No Liability. Notwithstanding any provision of this Agreement to the contrary, none of Parent, the Merger Sub, the Surviving Corporation, the Company or the Exchange Agent shall be liable to any person for Merger Consideration or any dividends or other distributions to which such holder is entitled pursuant to Section 2.2(c) delivered to a public official pursuant to any applicable abandoned property, escheat or similar Law.

Section 2.3 Treatment of Equity Awards.

(a) Parent shall not assume any options to purchase Company Common Stock under any stock option plan of the Company or any other plan, agreement or arrangement (the Company Option Plans) in connection

with the Merger. Each holder of an option (an Optionholder) that represents the right to acquire shares of Company Common Stock granted under the Company Option Plans which is outstanding immediately prior to the Effective Time (whether or not then vested or exercisable) (each a Company Option) shall be provided with notice pursuant to which all Company Options held by such Optionholder shall become fully vested and may be exercised by such Optionholder for a period of at least 15 days prior to the Effective Time in accordance with the terms and conditions of the applicable award agreement and Company Option Plan under which such Company Option was granted. To the extent that any outstanding Company Option is not so exercised immediately prior to the Effective Time, such Company Option shall be cancelled and terminated at the Effective Time in exchange for the right to receive, in a combination of cash and shares of Parent Common Stock as described below, (i) $1.35 minus the exercise price of such Company Option divided by (ii) $1.35 (the Net Option Share Amount), which shall be paid in (A) a cash amount equal to the product of the Net Option Share Amount multiplied by $0.27 and (B) the number of whole and fractional shares of Parent Common Stock equal to the quotient of (1) the product of the Net Option Share Amount multiplied by $1.08, divided by (2) the Parent Stock Value. If the exercise price per share of any such Company Option is equal to or greater than $1.35, such Company Option shall be canceled without any payment or other consideration being made in respect thereof.

(b) No later than the Effective Time, Parent shall provide, or shall cause to be provided, to the Surviving Corporation all funds necessary to fulfill the obligations under this Section 2.3. All payments required under this Section 2.3 shall be made by the Surviving Corporation as soon as practicable, but in no event later than five Business Days, following the Effective Time.

(c) Any share of, or any right to a share of, Company Common Stock held by any participant in or under any Company Option Plan or pursuant to a restricted stock purchase agreement with the Company (a Restricted Stock Purchase Agreement) that is, prior to the Effective Time, unvested or otherwise restricted or deferred (if any) shall, immediately prior to the Effective Time, become vested and in the case of any such right the shares of Company Common Stock to be paid thereunder shall be distributed prior to the Effective Time, and thereafter such unrestricted shares of Company Common Stock shall be treated in the manner described in Section 2.1(c) above.

(d) As soon as practicable following the date of this Agreement, but in any event prior to the Effective Time, the Company, the Board of Directors of the Company (the Company Board) or the compensation committee of the Company Board, as applicable, shall adopt any resolutions and take any actions which are reasonably necessary in accordance with applicable Law and, as applicable, the Company Option Plans, each agreement evidencing a grant of Company Options (a Company Option Agreement) and each Restricted Stock Purchase Agreement (including obtaining necessary consents or amendments) to (i) effectuate the provisions of this Section 2.3 and (ii) terminate, upon the Effective Time, each Company Option Plan, each Company Option Agreement and each Restricted Stock Purchase Agreement, such that, at the Effective Time and upon the payments contemplated hereunder, no person shall have any right to purchase or receive any equity or payment interest, or right convertible into or exercisable for any equity or payment interest or exit payment from or of the Company or the Surviving Corporation.

Section 2.4 Treatment of Warrants.

(a) Parent shall not assume any warrants to purchase Company Common Stock in connection with the Merger. Each holder of an unexercised and unexpired warrant (a Warrantholder) that represents the right to acquire shares of Company Common Stock under the several warrant agreements entered into by the Company and the warrant holders party thereto outstanding immediately prior to the Effective Time (whether or not then vested or exercisable) (each a Company Warrant) shall be provided with notice pursuant to which all Company Warrants held by such Warrantholder shall become fully vested and may be exercised by such Warrantholder for a period of at least 15 days prior to the Effective Time in accordance with the terms and conditions of the applicable Company Warrant. To the

extent that any outstanding Company Warrant is not so exercised immediately prior to the Effective Time, such Company Warrant shall be cancelled and terminated at the Effective Time in exchange for the right to receive, in a combination of cash and shares of Parent Common Stock

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as described below, (i) $1.35 minus the exercise price of such Company Warrant divided by (ii) $1.35 (the "Net Warrant Share Amount"), which shall be paid in (A) a cash amount equal to the product of the Net Warrant Share Amount multiplied by $0.27 and (B) the number of whole and fractional shares of Parent Common Stock equal to the quotient of (1) the product of the Net Warrant Share Amount multiplied by $1.08, divided by (2) the Parent Stock Value. If the exercise price per share of any such Company Warrant is equal to or greater than $1.35, such Company Warrant shall be canceled without any payment or other consideration being made in respect thereof.

(b) No later than the Effective Time, Parent shall provide, or shall cause to be provided, to the Surviving Corporation all funds necessary to fulfill the obligations under this Section 2.4. All payments required under this Section 2.4 shall be made by the Surviving Corporation as soon as practicable, but in no event later than five Business Days, following the Effective Time.

(c) As soon as practicable following the date of this Agreement, but in any event prior to the Effective Time, the Company or the Company Board, as applicable, shall adopt any resolutions and take any actions which are reasonably necessary in accordance with applicable Law and, as applicable, the Company Warrants (including obtaining necessary consents or amendments) to (i) effectuate the provisions of this Section 2.4 and (ii) terminate, upon the Effective Time, each Company Warrant, such that, at the Effective Time and upon the payments contemplated hereunder, no person shall have any right to purchase or receive any equity or payment interest, or right convertible into or exercisable for any equity or payment interest or exit payment from or of the Company or the Surviving Corporation.

Section 2.5 Treatment of Convertible Notes.

(a) Parent shall not assume any promissory notes convertible into Company Common Stock in connection with the Merger. Each holder of a note (a "Noteholder") that is convertible into Company Common Stock under the several promissory notes entered into by the Company and the note holders party thereto outstanding immediately prior to the Effective Time (whether or not then convertible) (each a "Company Note") shall be provided with notice pursuant to which all Company Notes held by such Noteholder may be converted in full by such Noteholder for a period of at least 15 days prior to the Effective Time in accordance with the terms and conditions of the applicable Company Note. To the extent that any outstanding Company Note is not so converted immediately prior to the Effective Time, such Company Note shall be cancelled and terminated at the Effective Time in exchange for the right to receive, in a combination of cash and shares of Parent Common Stock as described below, the total number of shares of Company Common Stock to which the Company Note was convertible immediately prior to the Effective Time (the "Net Note Share Amount"), which shall be paid in (i) a cash amount equal to the product of the Net Note Share Amount multiplied by $0.27 and (ii) the number of whole and fractional shares of Parent Common Stock equal to the quotient of (A) the product of the Net Note Share Amount multiplied by $1.08, divided by (B) the Parent Stock Value. If the conversion price per share of any such Company Note is equal to or greater than $1.35, the outstanding principal balance of such Company Note, together with all accrued but unpaid interest thereon, shall instead be paid in full.

(b) No later than the Effective Time, Parent shall provide, or shall cause to be provided, to the Surviving Corporation all funds necessary to fulfill the obligations under this Section 2.5. All payments required under this Section 2.5 shall be made by the Surviving Corporation as soon as practicable, but in no event later than five Business Days, following the Effective Time.

(c) As soon as practicable following the date of this Agreement, but in any event prior to the Effective Time, the Company or the Company Board, as applicable, shall adopt any resolutions and take any actions which are reasonably necessary in accordance with applicable Law and, as applicable, the Company Notes (including obtaining necessary consents or amendments) to (i) effectuate the provisions of this Section 2.5 and (ii) terminate or satisfy in full, as

applicable, upon the Effective Time, each Company Note, such that, at the Effective Time and upon the payments contemplated hereunder, no person shall have any right to purchase or receive any equity or payment interest, or right convertible into or exercisable for any equity or payment interest or exit payment from or of the Company or the Surviving Corporation.

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Section 2.6 Adjustments; Aggregate Merger Consideration.

(a) If at any time during the period between the date of this Agreement and the Effective Time, any change in the outstanding shares of capital stock of the Company or Parent shall occur as a result of any reclassification, stock split (including a reverse stock split), recapitalization, split-up, combination, exchange or readjustment of shares or other similar transaction, or a stock dividend or stock distribution thereon shall be declared with a record date during such period, the Merger Consideration and any other similarly dependent items shall be equitably adjusted to provide the holders of Parent Common Stock and Company Common Stock the same economic effect as contemplated by this Agreement prior to that event*; provided, however*, that nothing in this Section 2.6 shall be deemed to permit or authorize any party hereto to effect any such change that it is not otherwise authorized or permitted to undertake pursuant to this Agreement.

(b) Notwithstanding anything set forth in this Agreement to the contrary, in no event shall the Merger Consideration together with other amounts paid by Parent pursuant to Section 2.1, Section 2.2(e), Section 2.1(c), Section 2.3, Section 2.4, Section 2.5 and Section 2.8 exceed in the aggregate $26.0 million. In the event that if not for the foregoing sentence such amount paid by Parent would exceed in the aggregate $26.0 million, then the per share Merger Consideration shall be reduced *pro rata* such that the aggregate amount so paid by Parent shall not exceed in the aggregate $26.0 million.

Section 2.7 Withholding Taxes. Parent, the Surviving Corporation and the Exchange Agent shall be entitled to deduct and withhold from any amounts payable pursuant to this Agreement such amounts as may be required to be deducted and withheld with respect to the making of such payment under the Code, or under any applicable provision of state, local or foreign Law related to Taxes. To the extent amounts are so withheld and paid over to the appropriate Taxing authority, the withheld amounts shall be treated for all purposes of this Agreement as having been paid to the person in respect of which such deduction and withholding was made. If any withholding obligation may be avoided by such holder providing information or documentation to Parent, the Surviving Corporation or the Exchange Agent, such information shall be requested prior to any such withholding.

Section 2.8 Dissenting Shares. Shares of capital stock of the Company held by stockholders of the Company who have properly exercised and preserved appraisal rights with respect to those shares in accordance with Section 92A.440 of the NRS (Dissenting Shares) shall not be converted into or represent a right to receive the Merger Consideration pursuant to Section 2.1(c) above, but the holders thereof shall be entitled only to such rights as are granted by Section 92A.440 of the NRS. Each holder of Dissenting Shares who becomes entitled to payment for such shares pursuant to Section 92A.440 of the NRS shall receive payment therefor from the Surviving Corporation in accordance with such laws; *provided*, *however*, that if any such holder of Dissenting Shares shall have effectively withdrawn such holder s demand for appraisal of such shares or lost such holder s right to appraisal and payment of such shares under Section 92A.440 of the NRS, such holder or holders (as the case may be) shall forfeit the right to appraisal of such shares and each such share shall thereupon be deemed to have been canceled, extinguished and exchanged, as of the Effective Time, into and represent the right to receive the Merger Consideration as provided in Section 2.1(c) above. Any payments in respect of Dissenting Shares will be made by the Surviving Corporation. The Company shall give prompt notice to Parent of any written demands received by the Company for payment of the fair value (as defined in NRS 92A.320) in respect of any shares of Company Common Stock and attempted withdrawals of such demands and any other instruments served pursuant to NRS 92A.440 and received by the Company, and Parent shall have the right to direct all negotiations and proceedings with respect to such demands. The Company shall not, except with the prior written consent of Parent, voluntarily make or agree to make any payment with respect to any demands for appraisals of shares of Company Common Stock, offer to settle or settle any demands or approve any withdrawal of any such demands.

ARTICLE III

REPRESENTATIONS AND WARRANTIES OF THE COMPANY

Subject to Section 8.13, except as set forth in the disclosure schedule delivered by the Company to Parent prior to the execution of this Agreement (the Company Disclosure Schedule), or in the Company SEC Filings

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filed or furnished prior to the date of this Agreement (excluding any disclosures set forth in any risk factors section of any disclosure of risks included in any forward looking statements disclaimer to the extent that such disclosures are general in nature or cautionary, predictive or forward looking in nature), the Company hereby represents and warrants to Parent as follows:

Section 3.1 Organization and Qualification.

(a) The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of Nevada. The Company has the requisite power and authority to own, lease and operate its properties and to carry on its business as it is now being conducted. The Company is duly qualified or licensed to do business, and is in good standing, in each jurisdiction where the character of the properties owned, leased or operated by it or the nature of its business makes such qualification, licensing or good standing necessary, except for such failures to be so qualified, licensed or in good standing that would not, individually or in the aggregate, reasonably be expected to have a Company Material Adverse Effect. Except as set forth in Section 3.1 of the Company Disclosure Schedule, the Company does not hold an Equity Interest in any other person.

(b) Each Company Subsidiary has the requisite power and authority to own, lease and operate its properties and to carry on its business as it is now being conducted. Each Company Subsidiary is duly qualified or licensed to do business, and is in good standing, in each jurisdiction where the character of the properties owned, leased or operated by it or the nature of its business makes such qualification, licensing or good standing necessary, except for such failures to be so qualified, licensed or in good standing that would not, individually or in the aggregate, reasonably be expected to have a Company Material Adverse Effect. Except as set forth in Section 3.1 of the Company Disclosure Schedule, each Company Subsidiary does not hold an Equity Interest in any other person.

Section 3.2 Articles of Incorporation and Bylaws. The copies of the Company s Articles of Incorporation, as amended (the Company Certificate), and Bylaws, as amended (the Company Bylaws), that are attached as Section 3.2 of the Company Disclosure Schedule are complete and correct copies thereof as in effect on the date hereof. The Company has heretofore made available to Parent true, correct and complete copies of the Organizational Documents, in each case as amended to the date of this Agreement, of each Company Subsidiary (collectively with the Company Certificate and the Company Bylaws, the Company Governing Documents). The Company Governing Documents are in full force and effect. The Company and the Company Subsidiaries are in compliance with the material terms of the Company Governing Documents.

Section 3.3 Capitalization.

(a) The authorized capital stock of the Company consists of 500,000,000 shares of capital stock, of which 300,000,000 shares are designated Company Common Stock and 200,000,000 shares are designated preferred stock, par value $0.0001 per share (Company Preferred Stock). As of December 17, 2013, (i) 14,434,288 shares of Company Common Stock were issued and outstanding, all of which were validly issued and fully paid, nonassessable and free of preemptive rights, (ii) no shares of Company Common Stock were held in the treasury of the Company, (iii) 4,445,748 shares of Company Common Stock were issuable (and such number was reserved for issuance) upon exercise of Company Options outstanding as of such date, (iv) 1,200,000 shares of Company Common Stock were issuable (and such number was reserved for issuance) upon exercise of Company Warrants outstanding as of such date and (v) 1,314,583 shares of Company Common Stock were issuable (and such number was reserved for issuance) upon exercise of Company Notes outstanding as of such date. As of the date hereof, no shares of Company Preferred Stock are issued or outstanding.

(b) As of the close of business on December 17, 2013, except for (i) Company Options, each of which is more particularly described in Section 3.3 of the Company Disclosure Schedule (including vesting schedule and exercise price), to purchase not more than 4,445,748 shares of Company Common Stock, (ii) Company Warrants, each of which is more particularly described in Section 3.3 of the Company Disclosure Schedule (including vesting schedule, if any, and exercise price), to purchase 1,314,583 shares of Company Common

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Stock, (iii) Company Notes, each of which is more particularly described in Section 3.3 of the Company Disclosure Schedule (including outstanding principal balance, accrued but unpaid interest and conversion price), and (iv) other arrangements and agreements set forth in Section 3.3 of the Company Disclosure Schedule, there are no options, warrants or other rights to acquire capital stock or other Equity Interests from the Company, or securities convertible into or exchangeable for such capital stock or other Equity Interests, or obligations by the Company or any Company Subsidiary to make any payments based on the price or value of the shares of Company Common Stock. Since the close of business on December 17, 2013 through the date hereof, the Company has not issued any shares of its capital stock or other Equity Interests, or securities convertible into or exchangeable for such capital stock or other Equity Interests, other than shares of capital stock reserved for issuance as provided in this Section 3.3, issuance of shares pursuant to Company Options, or as set forth in Section 3.3 of the Company Disclosure Schedule. All shares of Company Common Stock subject to issuance under the Company Option Plans, upon issuance prior to the Effective Time on the terms and conditions specified in the instruments pursuant to which they are issuable, will be duly authorized, validly issued, fully paid, nonassessable and free of preemptive rights.

(c) Except with respect to the Company Notes, the Company Warrants, the Company Options and any related grant agreements, there are no outstanding contractual obligations of the Company or any Company Subsidiary (i) restricting the transfer of, (ii) affecting the voting rights of, (iii) requiring the repurchase, redemption or disposition of, or containing any right of first refusal with respect to, (iv) requiring the registration for sale of, or (v) granting any preemptive or antidilutive right with respect to, any shares of Company Common Stock or any capital stock of, or other Equity Interests in, the Company. All outstanding securities of the Company have been offered and issued in compliance in all material respects with all applicable securities laws, including the Securities Act and any applicable U.S. state securities and Blue Sky Laws.

(d) The Company or a Company Subsidiary is the record and beneficial owner of all the outstanding shares of capital stock of each Company Subsidiary, free and clear of any lien or other encumbrance, and there are no irrevocable proxies with respect to any such shares. There are no outstanding (i) securities of the Company or any Company Subsidiary convertible into or exchangeable for shares of capital stock or other voting securities or ownership interests in any Company Subsidiary, (ii) options, restricted stock, warrants, rights or other agreements or commitments to acquire from the Company or any Company Subsidiary, or obligations of the Company or any Company Subsidiary to issue, any capital stock, voting securities or other ownership interests in (or securities convertible into or exchangeable for capital stock or voting securities or other ownership interests in) any Company Subsidiary, (iii) obligations of the Company or any Company Subsidiary to grant, extend or enter into any subscription, warrant, right, convertible or exchangeable security or other similar agreement or commitment relating to any capital stock, voting securities or other ownership interests in any Company Subsidiary (the items in clauses (i), (ii) and (iii), together with the capital stock of such Company Subsidiaries, being referred to collectively as Subsidiary Securities), or (iv) obligations of the Company or any Company Subsidiary to make any payment based on the value of any shares of any Company Subsidiary. There are no outstanding obligations of the Company or any Company Subsidiary to purchase, redeem or otherwise acquire any outstanding Subsidiary Securities. There are no voting trusts or other agreements or understandings to which the Company or any Company Subsidiary is a party with respect to the voting of capital stock of any Company Subsidiary. All Subsidiary Securities of any Company Subsidiary incorporated or formed in a jurisdiction located within the United States of America are duly authorized, validly issued, fully paid and nonassessable.

(e) The Company or one of its wholly owned Company Subsidiaries owns all of the issued and outstanding Equity Interests of each Company Subsidiary. No Equity Interests of any Company Subsidiary are or may become required to be issued (other than to another Company Subsidiary or the Company) by reason of any contract, and there are no contracts by which any Company Subsidiary is bound to issue (other than to another Company Subsidiary or the Company) additional Equity Interests or contracts by which any of the Company and the Company Subsidiaries is or

may be bound to transfer Equity Interests of any Company Subsidiary (other than to another Company Subsidiary or the Company). There are no contracts relating to the rights of any of the Company and the Company Subsidiaries to vote or to dispose of any Equity Interests of any Company

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Subsidiary. All Equity Interests of each Company Subsidiary held by a Company Subsidiary or the Company are fully paid and nonassessable under the applicable Law of the jurisdiction in which such Subsidiary is incorporated or organized and are owned by a Company Subsidiary or the Company free and clear of any lien or other encumbrance.

Section 3.4 Authority.

(a) The Company has all necessary corporate power and authority to execute and deliver this Agreement, to perform its obligations hereunder and, subject to the adoption and approval of this Agreement and the Merger by the Required Company Stockholders (as defined below), to consummate the Merger and the transactions contemplated by this Agreement (the Transactions) to be consummated by the Company. The execution and delivery of this Agreement by the Company and the consummation by the Company of the Transactions have been duly and validly authorized by all necessary corporate action and no other corporate proceedings on the part of the Company and no stockholder votes by the Company s stockholders are necessary to authorize this Agreement or the Merger or to consummate the Transactions, other than, with respect to the Merger, the approval of this Agreement by the Required Company Stockholders. This Agreement has been duly authorized and validly executed and delivered by the Company and, assuming due authorization, execution and delivery by each of the other parties hereto, constitutes a legal, valid and binding obligation of the Company, enforceable against the Company in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium or similar Laws relating to or affecting creditors generally and by general equitable principles (regardless of whether such enforceability is considered in a proceeding in equity or at law).

(b) There is no stockholder rights plan, poison pill anti-takeover plan or other similar device in effect, to which the Company is a party or otherwise bound. The Company has taken all actions necessary to render inapplicable to this Agreement and the Transactions contemplated hereby, including the Merger, and inapplicable to Parent, Sub and the Company s capital stock in connection with this Agreement and the Transactions contemplated hereby, including the Merger, any and all fair price, moratorium, control share acquisition, business combination and other similar laws o the State of Nevada or the State of California, including the Acquisition of Controlling Interest statutes set forth in NRS 78.378 -78.3793, inclusive, and the Combinations With Interested Stockholders statutes set forth in NRS 78.411 - 78.444, inclusive, and no such Laws (each a Takeover Statute) apply or will apply to this Agreement and the Transactions contemplated hereby, including the Merger.

(c) The Company Board, at a meeting duly called and held, has unanimously (i) approved, adopted, authorized and declared advisable this Agreement and the Transactions, including the Merger, (ii) determined that this Agreement and the Transactions, including the Merger, are fair to and in the best interests of the Company and its stockholders, (iii) directed that the adoption of this Agreement be submitted to a vote of the stockholders of the Company at the Company Stockholders Meeting, and (iv) resolved, subject to Section 5.7, to recommend that stockholders of the Company adopt this Agreement.

Section 3.5 No Conflict; Required Filings and Consents.

(a) The execution and delivery of this Agreement by the Company does not, and the performance of this Agreement by the Company will not, (i) assuming the Required Company Stockholders adopt this Agreement, conflict with or violate any provision of the Company Governing Documents, (ii) assuming that all consents, approvals, authorizations and permits described in Section 3.5(b) have been obtained and all filings and notifications described in Section 3.5(b) have been made and any waiting periods thereunder have terminated or expired, conflict with or violate any Law applicable to the Company or any Company Subsidiary or by which any property or asset of the Company or any Company Subsidiary is bound or affected or (iii) except as set forth on Section 3.5(a) of the Company Disclosure Schedule (the Company Required Consents), require any consent or approval under, result in any breach of or any loss

of any benefit under, or constitute a change of control or default (or an event which with notice or lapse of time or both would become a default) under, or give to others

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any right of termination, amendment, acceleration or cancellation of, or result in the creation of a lien or other encumbrance on any property or asset of the Company or any Company Subsidiary pursuant to, any note, bond, mortgage, indenture, contract, agreement, lease, license, Permit or other instrument or obligation to which the Company or any Company Subsidiary is party, except, as to clauses (ii) and (iii), respectively, for any such conflicts, violations, breaches, defaults, failures to obtain consent or approval or other occurrences as would not reasonably be expected to have, individually or in the aggregate, a Company Material Adverse Effect.

(b) The execution and delivery of this Agreement by the Company does not, and the performance of this Agreement by the Company will not, require any consent, approval, authorization or permit of, or filing with or notification to, any Governmental Entity, except (i) as set forth in Section 3.5(b) of the Company Disclosure Schedule, (ii) under the Exchange Act, the Securities Act, any applicable Blue Sky Law, the rules and regulations of the OTCQB, and the filing and recordation of the Articles of Merger as required by the NRS or (iii) where failure to obtain such consents, approvals, authorizations or permits, or to make such filings or notifications, would not, individually or in the aggregate, reasonably be expected to have a Company Material Adverse Effect.

Section 3.6 Permits; Compliance with Law. Except as would not, individually or in the aggregate, reasonably be expected to have a Company Material Adverse Effect, (a) the Company and each Company Subsidiary is conducting, and since January 1, 2011, has conducted, its business in compliance with all Laws applicable to the Company or any Company Subsidiary and have not received any written notice of non-compliance with respect to any applicable Laws, (b) the Company and each Company Subsidiary hold all Permits necessary for the ownership, lease and operation of its properties and assets, and such Permits are in full force and effect, and (c) from January 1, 2011, through the date of this Agreement, neither the Company nor any Company Subsidiary has received any written communication from any Governmental Entity that (i) alleges that the Company or any Company Subsidiary is not in compliance with any Permit or Law applicable to the Company or any Company Subsidiary or (ii) informs the Company that any investigation or review by any Governmental Entity is pending with respect to the Company or any Company Subsidiary or any of their respective properties or assets or that any such investigation or review is currently contemplated.

Section 3.7 Regulatory Compliance.

(a) The Company and the Company Subsidiaries are and have been, since January 1, 2011, in compliance in all material respects with (i) all applicable Laws (including all rules, regulations and policies) of the U.S. Food and Drug Administration (the FDA) and all other Health Authorities and (ii) all Regulatory Authorizations, including all requirements of the FDA and all other Health Authorities, that are applicable to the Company and the Company Subsidiaries, or by which any property, product, or other asset of the Company and the Company Subsidiaries (including any Product Candidate) is bound or affected. As of the date of this Agreement, neither the Company nor the Company Subsidiaries has received any written notification of any pending or, to the knowledge of the Company, threatened, claim, suit, proceeding, hearing, enforcement, audit, investigation, arbitration or other action from any Health Authority.

(b) Except as would not, individually or in the aggregate, reasonably be expected to have a Company Material Adverse Effect, since January 1, 2011, (i) the Company and the Company Subsidiaries have held all Regulatory Authorizations required for the conduct of their respective businesses and Section 3.7(b) of the Company Disclosure Schedule sets forth a complete and correct list of all such Regulatory Authorizations from the FDA and all other Health Authorities held by the Company and each of the Company Subsidiaries and used in the conduct of their respective businesses. No event has occurred that allows, or after notice or lapse of time would allow, revocation or termination of any material Regulatory Authorization or results in any other impairment of the rights of the holder of any material Regulatory Authorization. Except for matters that would not, individually or in the aggregate, have a

Company Material Adverse Effect, all such Regulatory Authorizations held by the Company and the Company Subsidiaries are (i) in full force and effect, (ii) validly registered and on file with applicable Health Authorities and (iii) in material compliance with all filing and maintenance requirements. The Company and each of the Company Subsidiaries has filed all required notices

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and responses to notices, supplemental applications, reports (including adverse experience reports) and other information with the FDA and all other applicable Health Authorities with respect to the conduct of their respective businesses.

(c) Section 3.7(c) of the Company Disclosure Schedule contains a complete and accurate list of all of the Product Candidates of the Company and the Company Subsidiaries, listing, where applicable, those Product Candidates for which the Company or the applicable Company Subsidiary have applied for or have authorization or clearance through inaction to test the product in human subjects (Human Testing Authorization) according to applicable regulations and listing the type of application made. For those Product Candidates listed in Section 3.7(c) of the Company Disclosure Schedule as having Human Testing Authorization, such Human Testing Authorization has not been revoked or rescinded, and no written notification has been received by any of the Company or the Company Subsidiaries from any Health Authority that would reasonably be expected to preclude the Company from continuing to test such Product Candidates. Furthermore, to the Company s knowledge, no Covered Persons have received any material written information that could reasonably result in the Company or the Company Subsidiaries being precluded from continuing to test such Product Candidates. No applications made or other materials submitted by the Company or the Company Subsidiaries to any Health Authority contained an untrue statement of material fact, or omitted to state a material fact required to be stated therein or necessary in order to make the statements contained therein, in light of the circumstances under which they were made, not misleading on a material matter. For the purposes of this Agreement, Product Candidates means biologics, compounds or other products under development, current, active or otherwise, or consideration by the Company or any Company Subsidiary or any of their respective licensees.

(d) There are no facts or circumstances that the Company has concluded are reasonably likely to have a material adverse effect on the continued supply (either for clinical or commercial purposes) of the active ingredients or raw materials necessary to produce the Product Candidates currently used in clinical trials.

(e) Section 3.7(e) of the Company Disclosure Schedule contains a complete and accurate list of all of the Company s and the Company Subsidiaries research programs relating to any Product Candidates ongoing immediately prior to the date of this Agreement in one or more specific therapeutic areas or one or more specific biological pathways or targets. Neither the Company nor any of the Company Subsidiaries has received any material written information from any Government Entity that asserts, claims, questions or otherwise addresses any research program in respect of whether a research program has been, or is being, conducted in full compliance with all applicable Law.

(f) Neither the Company nor any of the Company Subsidiaries has received any material written information since January 1, 2011 from any Health Authority with jurisdiction over the marketing, sale, use, handling and control, safety, efficacy, reliability, or manufacturing of Company Products which would reasonably be expected to lead to the revocation, withdrawal, or denial of any application for marketing approval before such Health Authority.

(g) The Company has made available to Parent all material reports, documents, claims, notices, filings, minutes, transcripts, recordings and other material correspondence between the Company and any of the Company Subsidiaries, on the one hand, and any Health Authority, on the other hand, since January 1, 2011.

(h) All material reports, documents, claims, applicable product registration files and dossiers, notices and similar filings required to be filed, maintained, or furnished to any Health Authority by the Company and the Company Subsidiaries since January 1, 2011 have been so filed, maintained or furnished and, to the knowledge of the Company, were complete and correct in all material respects on the date filed (or were corrected in or supplemented by a subsequent filing).

(i) The Company and the Company Subsidiaries have not since January 1, 2011 voluntarily or involuntarily initiated, conducted or issued, or caused to be initiated, conducted or issued, any investigator notices, safety alerts or other notice of action relating to an alleged lack of safety, efficacy, or regulatory compliance of any Product Candidate being administered in a human clinical trial or research program sponsored

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by the Company or the Company Subsidiaries. Neither the Company nor any Company Subsidiary has received any written notice since January 1, 2011 that the FDA or any other Health Authority has (i) commenced, or threatened to initiate, any action to request the recall of any Product Candidate, (ii) commenced, or threatened to initiate, any action to enjoin the manufacture or distribution of any Product Candidate, (iii) commenced, or threatened to initiate, any action to enjoin the manufacture or distribution of any Product Candidate produced at any facility where any Product Candidate is manufactured, tested, processed, packaged or held for sale, or (iv) commenced, or threatened to initiate, any action that would suspend or terminate a research program.

(j) All clinical and pre-clinical studies, including all research programs, conducted by or on behalf of or sponsored by the Company or the Company Subsidiaries, or in which the Company or the Company Subsidiaries or their products or Product Candidates have participated were and, if still pending, are being conducted in accordance with all internal health, safety and environmental guidelines and standards of the Company or the Company Subsidiaries, any and all applicable trial protocols, standard medical and scientific research procedures and all applicable Laws, including compliance with the requirements of Good Laboratory Practice (21 C.F.R. pt. 58) and FDA regulations relating to Good Clinical Practice and Clinical Trials (including 21 C.F.R. pt. 312 and all requirements relating to protection of human subjects contained in 21 C.F.R. pts. 50, 54, and 56), any relevant current International Conference on Harmonisation (ICH) guidance documents, and all similar local, state, federal, and applicable foreign Laws, and any adverse event reporting requirements of any of the foregoing, in each case in all material respects. The Company and the Company Subsidiaries have not received since January 1, 2011 any written notices, correspondence or other communication from any Health Authority requiring the termination or suspension of any clinical trials conducted by, or on behalf of, the Company or any Company Subsidiary, or in which the Company or the any of the Company Subsidiaries have participated.

(k) All clinical trials conducted by or on behalf of the Company or any Company Subsidiary and relied on for marketing authority conform to the characteristics of adequate and well-controlled studies set forth in 21 C.F.R. § 314.126.

(l) All manufacturing operations conducted by or for the benefit of the Company or any Company Subsidiary, whether domestic or foreign, have been, and are being conducted in material compliance with the FDA s current Good Manufacturing Practice regulations for drug and biological products, including the relevant current International Conference on Harmonization (ICH) guidance documents (including, without limitation, the ICH Guidance Q7A Good Manufacturing Practices Guidance for Active Pharmaceutical Ingredients), 21 C.F.R. Parts 210, 211, 606 and 610, and all similar local, state, federal, and applicable foreign Laws.

(m) Neither the Company nor any of the Company Subsidiaries has received any FDA Form 483, notice of adverse finding, warning letters, untitled letters or other notices alleging a lack of safety from any Health Authority, and there is no action or proceeding pending or, to the knowledge of the Company, threatened by any such Health Authority, contesting the approval of, the uses of, or the labeling or promotion of, or otherwise alleging any violation of law with respect to, any product manufactured, distributed or marketed by or on behalf of the Company or the Company Subsidiaries.

(n) Except as would not reasonably be expected to have, individually or in the aggregate, a Company Material Adverse Effect: (i) neither the Company nor any of the Company Subsidiaries is the subject of any pending or, to the knowledge of the Company, threatened investigation regarding the Company, the Company Subsidiaries, or their products, by the FDA pursuant to its Fraud, Untrue Statements of Material Facts, Bribery, and Illegal Gratuities Final Policy set forth in 56 Fed. Reg. 46191 (Sept. 10, 1991) and any amendments thereto, or otherwise, (ii) neither the Company nor any of the Company Subsidiaries, nor, to the knowledge of the Company, any director, officer, employee, agent or distributor of the Company or any Company Subsidiary, has committed or been convicted of any

crime or engaged in any conduct for which debarment is mandated by 21 U.S.C. § 335a(a) or any similar Law or authorized by 21 U.S.C. § 335a(b) or any similar Law, and (iii) neither the Company nor any of the Company Subsidiaries, nor, to the knowledge of the Company, any officer, employee, agent or distributor of the Company or any Company Subsidiary, been convicted of any crime or

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engaged in any conduct for which such person could be excluded from participating in the federal health care programs under Section 1128 of the Social Security Act of 1935, as amended (the Social Security Act), or any similar Law. As of the date hereof, except as would not reasonably be expected to have, individually or in the aggregate, a Company Material Adverse Effect, no claims, actions, proceedings or investigations that would reasonably be expected to result in a debarment or exclusion of the Company or any Company Subsidiary is pending or, to the knowledge of the Company, threatened, against the Company or any Company Subsidiary or, to the knowledge of the Company, any of its directors, officers, employees or agents.

(o) Except as set forth on Section 3.7(o) of the Company Disclosure Schedule, no clinical hold or termination of a clinical study has been ordered by the FDA under 21 C.F.R. § 312.42 or § 312.44, or by any other Health Authority on any clinical trial of a product of the Company or any Company Subsidiary, and no such clinical trial has otherwise has been suspended or terminated by any person (including the Company or the Company Subsidiaries) prior to completion.

(p) The Company and the Company Subsidiaries have entered into written agreements with any persons or entities that provide material goods and services related to the conduct of the business of the Company or the Company Subsidiaries, including research programs, clinical study, pre-clinical study, manufacturing or operations. These written agreements include a requirement that the contracted party comply in all material respects with all applicable Laws.

Section 3.8 SEC Filings; Financial Statements.

(a) Since September 7, 2013, the Company has timely filed with or furnished to the SEC all registration statements, prospectuses, forms, reports, definitive proxy statements, schedules and documents required to be filed by it under the Securities Act or the Exchange Act, as the case may be, from and after September 7, 2013 (collectively, the Company SEC Filings). As of its respective date or, if amended, as of the date of the last such amendment, (i) each Company SEC Filing complied in all material respects with the applicable requirements of the Exchange Act, the Securities Act and the Sarbanes-Oxley Act of 2002 (the Sarbanes-Oxley Act), as the case may be, and the rules and regulations of the SEC thereunder, applicable to such Company SEC Filing and (ii) none of the Company SEC Filings contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading. As of the date of this Agreement, there are no outstanding or unresolved comments in comment letters received from the SEC staff with respect to the Company SEC Filings and, to the knowledge of the Company, none of the Company SEC Filings is the subject of ongoing SEC review, outstanding SEC comment or outstanding SEC investigation. No Company Subsidiary is required to file periodic reports with the SEC pursuant to the Exchange Act. The Company has made available to Parent complete and accurate copies of all reports, documents, claims, notices, filings, minutes, transcripts, recordings and other material correspondence between the Company and any of the Company Subsidiaries, on the one hand, and the SEC, on the other hand, since January 1, 2011. The Company has delivered to Parent a copy of its unaudited balance sheet as of November 30, 2013, and, to the knowledge of the Company, the balance sheet does not contain any material omissions (except (A) as may be indicated in the notes thereto, (B) as permitted by Regulation S-X, or (C) in the case of unaudited statements, as to normal year-end audit adjustments and the absence of footnote disclosure) that would result in a Company Material Adverse Effect.

(b) As of their respective dates of filing with the SEC, the consolidated financial statements, as amended, supplemented or restated, if applicable, of the Company and the Company Subsidiaries included in the Company SEC Filings (i) complied as to form in all material respects with all applicable accounting requirements and with the published rules and regulations of the SEC with respect thereto (except, in the case of unaudited statements, as permitted by Form 10-Q of the SEC and Regulation S-X), (ii) have been prepared in accordance with GAAP applied

on a consistent basis for the periods presented (except (A) as may be indicated in the notes thereto, (B) as permitted by Regulation S-X, or (C) in the case of unaudited statements, as to normal year-end audit adjustments and the absence of footnote disclosure) and (iii) present fairly, in all material respects, the

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consolidated financial position of the Company and the consolidated Company Subsidiaries, and the results of their operations and cash flows, as of the dates and for the periods shown.

(c) The Company has implemented and maintains disclosure controls and procedures (as defined in Rule 13a-15(d) of the Exchange Act) that are reasonably designed to ensure that information required to be disclosed by the Company in the reports it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time frames specified by the SEC s rules and forms (and such disclosure controls and procedures are reasonably effective), and has disclosed, based on its most recent evaluation of its system of internal control over financial reporting prior to the date of this Agreement, to the Company s outside auditors and the audit committee of the Company Board (i) any significant deficiencies and material weaknesses known to it in the design or operation of its internal control over financial reporting (as defined in Rule 13a-15(f) of the Exchange Act) that would reasonably be expected to adversely affect the Company s ability to record, process, summarize and report financial information and (ii) any fraud known to it, that involves management or other employees who have a significant role in the Company s internal control over financial reporting.

(d) To the knowledge of the Company, as of the date hereof, no employee of the Company or the Company Subsidiaries has provided or is providing information to any law enforcement agency regarding the violation of any applicable Law of the type described in Section 806 of the Sarbanes-Oxley Act by the Company or the Company Subsidiaries.

(e) Since September 7, 2013, each of the principal executive officer of the Company and the principal financial officer of the Company has made all certifications required by Rule 13a-14 or 15d-14 under the Exchange Act and Sections 302 and 906 of the Sarbanes-Oxley Act, in each case, with respect to the Company SEC Filings, and the statements contained in such certifications were complete, correct and accurate on the date such certifications were made. For purposes of this Agreement, principal executive officer and principal financial officer shall have the meanings given to such terms in the Sarbanes-Oxley Act.

(f) Neither the Company nor any of the Company Subsidiaries is a party to, or has any commitment to become a party to, any joint venture, off-balance sheet partnership or any similar contract (including any contract relating to any transaction or relationship between or among the Company or any Company Subsidiary, on the one hand, and any unconsolidated affiliate, including any structured finance, special purpose or limited purpose entity or person, on the other hand), or any off-balance sheet arrangements (as defined in Item 303(a) of Regulation S-K of the SEC), where the result, purpose or intended effect of such contract is to avoid disclosure of any material transaction involving, or material liabilities of, the Company or any Company Subsidiary in the Company SEC Filings.

(g) Neither the Company nor any of the Company Subsidiaries has any liabilities that would be required to be reflected or reserved against on a balance sheet prepared in accordance with GAAP (or in the notes thereto), except for liabilities (i) reflected or reserved against on the consolidated balance sheet of the Company and the Company Subsidiaries as of September 30, 2013 (the Balance Sheet Date) (including the notes thereto) included in the Company SEC Filings, (ii) incurred after the Balance Sheet Date in the ordinary course of business consistent with past practice, (iii) as contemplated by this Agreement or otherwise in connection with the Merger and the Transactions or (iv) that would not reasonably be expected to have, individually or in the aggregate, a Company Material Adverse Effect.

Section 3.9 Disclosure Documents.

(a) The Proxy Statement and any Other Filings, and any amendments or supplements thereto, that the Company is responsible for filing at (i) the time the Registration Statement is declared effective, (ii) the time the Proxy Statement or such Other Filing (or any amendment thereof or supplement thereto) is first mailed to the stockholders of the

Company, and (iii) the time of the Company Stockholders Meeting, as applicable, will comply as to form in all material respects with the applicable requirements of the Securities Act, the Exchange Act and other applicable Law.

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(b) None of the information supplied by the Company for use in the Proxy Statement or Registration Statement, and any amendments or supplements thereto, at (i) the time the Registration Statement is declared effective, (ii) the time the Proxy Statement (or any amendment thereof or supplement thereto) is first mailed to the stockholders of the Company, and (iii) the time of the Company Stockholders Meeting, in each case, will contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading. None of the information supplied by the Company for use in any Other Filing, at the time such Other Filing (or any amendment thereof or supplement thereto) is first mailed to the stockholders of the Company, will contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in the light of the circumstances under which they were made, not misleading.

(c) The representations and warranties contained in this Section 3.9 will not apply to statements or omissions included in the Proxy Statement, the Registration Statement or any Other Filings to the extent based upon information supplied to the Company by Parent or Merger Sub for use therein.

Section 3.10 Absence of Certain Changes.

(a) Since the Balance Sheet Date through the date of this Agreement, except as provided in or contemplated by this Agreement, as set forth in Section 3.10(a) of the Company Disclosure Schedule or as required by applicable Law, (i) the Company and the Company Subsidiaries have conducted their respective businesses only in the ordinary course consistent with past practice, and (ii) neither the Company nor any of the Company Subsidiaries has taken any action that, if taken after the date of this Agreement without the prior written consent of Parent, would constitute a breach of Section 5.1.

(b) Since the Balance Sheet Date, there has not been any state of facts, change, event, effect or occurrence that has had, individually or in the aggregate, a Company Material Adverse Effect.

Section 3.11 Employee Benefit Plans.

(a) Section 3.11 of the Company Disclosure Schedule sets forth a correct and complete list of all Benefit Plans and Benefit Agreements.

(b) Each Benefit Plan that is intended to be qualified under Section 401(a) of the Code, and each trust that is related to a Benefit Plan and intended to be Tax exempt under Section 501(a) of the Code, is so qualified under Section 401(a) of the Code or exempt from taxation under Section 501(a) of the Code and, to the knowledge of the Company, nothing has occurred that would adversely affect the qualification or Tax exemption of any such Benefit Plan or related trust. Each Benefit Plan has been administered in all material respects in accordance with its terms. The Company, the Company Subsidiaries and all the Benefit Plans are all in compliance in all material respects with the applicable provisions of ERISA, the Code and all other applicable Laws, including Laws of foreign jurisdictions.

(c) No Benefit Plan (i) is subject to Section 303 or Title IV of ERISA or Section 412 or 430 of the Code or is a multiemployer pension plan (within the meaning of Section 3(37) or 4001(a)(3) of ERISA) or a multiple employer plan (within the meaning of Section 4063 of ERISA) or a multiple employer welfare arrangement within the meaning of Section 3(40)(A) of ERISA or (ii) provides for post-retirement or other post-employment welfare benefits (other than health care continuation coverage as required by applicable Law). Neither the Company, any Company Subsidiary nor any other person that, together with the Company or any Company Subsidiary, is treated as a single employer under Section 414 of the Code or Section 4001(a)(4) or 4001(b) of ERISA (each a Commonly Controlled Entity) has, within the prior six years, sponsored, maintained, contributed to or been required to contribute to, or had

any liability (contingent or otherwise) with respect to, any such plan.

(d) To the extent applicable, correct and complete copies of the following have been delivered or made available to Parent by the Company: (i) all Benefit Plans and Benefit Agreements (including all amendments and

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attachments thereto); (ii) written summaries of any Benefit Plan and any Benefit Agreement not in writing; (iii) all related trust documents; (iv) all insurance contracts or other funding arrangements; (v) the most recent annual report (Form 5500) filed with the IRS; (vi) the most recent determination letter from the IRS, if any; and (vii) the most recent summary plan description and any summary of material modification thereto.

(e) There are no investigations, examinations, audits or proceedings by any Governmental Entity with respect to or involving any Benefit Plan or any fiduciary thereof, and to the knowledge of the Company, there are not any facts that would reasonably be expected to give rise to any such investigation, examination, audit or proceeding. There are no actions, claims, suits or proceedings against or involving any Benefit Plan or Benefit Agreement or asserting any rights or claims to benefits under any Benefit Plan or Benefit Agreement (except claims for benefits payable in the normal operation of the Benefit Plan or Benefit Agreement), and, to the knowledge of the Company, there are not any facts that would reasonably be expected to give rise to any such action, claim, suit or proceeding.

(f) With respect to each Benefit Plan, there has not occurred any prohibited transaction (within the meaning of Section 406 of ERISA or Section 4975 of the Code) that could subject the Company or any Company Subsidiary or any of their respective employees to any material liability.

(g) Except as set forth on Section 3.11 of the Company Disclosure Schedule, none of the execution and delivery of this Agreement, the obtaining of the Company Stockholder Approval or the consummation of the Merger or any other Transaction (whether alone or as a result of any termination of employment on or following the Effective Time) will (i) entitle any Participant to severance, termination, retention, change in control or similar compensation or benefits, (ii) accelerate the time of payment or vesting, or trigger any payment or funding (through a grantor trust or otherwise) of, compensation or benefits under, increase the amount payable or trigger any other material obligation pursuant to any Benefit Plan or Benefit Agreement, (iii) prohibit any Benefit Plan or Benefit Agreement from being amended or terminated, or (iv) result in an excess parachute payment (as defined in Section 280G(b)(1) of the Code).

(h) Except as would not reasonably be expected to give rise to material liability, the Company and each of the Company Subsidiaries have correctly classified each individual who performs services for the Company or any of the Company Subsidiaries as a common law employee, an independent contractor, or a leased employee, as applicable, in accordance with the provisions of each Benefit Plan, and in accordance with ERISA, the Code, and other applicable Laws.

(i) Each Benefit Plan and each Benefit Agreement that is a nonqualified deferred compensation plan within the meaning of Section 409A(d)(1) of the Code (a Nonqualified Deferred Compensation Plan) subject to Section 409A of the Code was, as of January 1, 2005, in good faith compliance with Section 409A of the Code and the then applicable guidance issued by the IRS thereunder (together, the 409A Authorities). Since January 1, 2008, each Nonqualified Deferred Compensation Plan has remained in documentary and operational compliance with the 409A Authorities. No Participant is entitled to any gross-up, make-whole or other additional payment from the Company or any of the Company Subsidiaries in respect of any Tax (including federal, state, local or foreign income, excise or other Taxes (including Taxes imposed under Sections 280G and 409A of the Code)) or interest or penalty related thereto.

(j) With respect to each Benefit Plan that is an employee pension benefit plan (as such term is defined in Section 3(2) of ERISA), all contributions (including all employer contributions and employee salary reduction contributions) that are due have been made within the time periods prescribed by ERISA and the Code, and all contributions for any period ending on or before the Effective Time which are not yet due have been made to each such employee pension benefit plan or accrued in accordance with GAAP. With respect to each Benefit Plan that is an employee welfare benefit plan (as such term is defined in Section 3(1) of ERISA), all premiums or other payments for all periods ending on or before the Effective Time have been paid or accrued in accordance with GAAP.

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Section 3.12 Labor and Other Employment Matters.

(a) The Company and each Company Subsidiary is in compliance with all applicable Laws respecting labor, employment, fair employment practices, terms and conditions of employment, workers compensation, occupational safety, plant closings, and wages and hours, in each case, except where such failure to be in compliance would not, individually or in the aggregate, reasonably be expected to result in a Company Material Adverse Effect. Neither the Company nor any Company Subsidiary is party to a collective bargaining agreement and no labor union has been certified to represent any employee of the Company or any Company Subsidiary, or has applied to represent or is attempting to organize so as to represent such employees. To the knowledge of the Company, neither the Company nor any Company Subsidiary currently employs, any person who was not permitted to work in the jurisdiction in which such person was employed. The Company and each Company Subsidiary has complied in all material respects with all Laws that could require overtime to be paid to any current employee of the Company and/or Company Subsidiaries, no current employee has ever brought or, to the knowledge of the Company, threatened in writing to bring a claim for unpaid compensation or employee benefits, including overtime amounts, and no former employee has any claim pending or, to the knowledge of the Company, has threatened in writing to bring a claim for unpaid compensation or employee benefits, including, without limitation, overtime amounts.

(b) Neither the Company nor any Company Subsidiary is delinquent in payments to any of its current employees for any material wages, salaries, commissions, bonuses or other direct compensation for any services performed by them or amounts required to be reimbursed to such employees or in payments owed upon any termination of the employment of any such employees.

(c) There is no unfair labor practice complaint against the Company or any Company Subsidiary pending before any Governmental Entity that would reasonably be expected to have a Company Material Adverse Effect.

(d) There is no labor strike, material dispute, slowdown or stoppage actually pending or, to the knowledge of the Company, threatened in writing against or involving the Company or any Company Subsidiary.

(e) All material sums due for employee compensation and benefits and all accrued vacation time owing to any employees of the Company or any Company Subsidiary have been duly and adequately accrued on the accounting records of the Company, in each case, in accordance with GAAP.

(f) To the knowledge of the Company and except as otherwise contemplated by this Agreement, no officer or key employee presently intends to terminate their respective employment with the Company or any Company Subsidiary, nor does the Company or any Company Subsidiary have a present intention to terminate the employment of any of the foregoing.

(g) Except as would not reasonably be expected to have, individually or in the aggregate, a Company Material Adverse Effect, each current or former employee, officer and consultant of the Company and of each Company Subsidiary has executed a proprietary information and inventions assignment agreement or similar agreement whereby all Intellectual Property created by them in the scope of their employment or other relationship with the Company or any Company Subsidiary is assigned to the Company or applicable Company Subsidiary. To the knowledge of the Company, none of the Company s nor any Company Subsidiaries current or former employees, officers or consultants is in material violation thereof. To the knowledge of the Company, other than with respect to exclusions previously accepted by the Company involving works or inventions unrelated to the business of the Company, no current or former employee, officer or consultant of the Company or of any Company Subsidiary has excluded material works or inventions made prior to his or her employment or consulting relationship with the Company or Company Subsidiary (as the case may be) from his, her or its assignment of inventions pursuant to such employee, officer or consultant s

proprietary information and inventions agreement.

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(h) Except as set forth in Section 3.12(h) of the Company Disclosure Schedule, there are no (i) severance or employment agreements with directors, officers or employees of the Company; (ii) severance programs or policies of the Company with or relating to its employees; or (iii) plans, programs, agreements or other arrangements of the Company with or relating to its directors, officers or employees which contain change in control provisions.

Section 3.13 Material Contracts.

(a) Except as filed as exhibits to the Company SEC Filings filed prior to the date of this Agreement, or as set forth in Section 3.13(a) or Section 3.12(h) of the Company Disclosure Schedule, as of the date of this Agreement, neither the Company nor any Company Subsidiary is a party to or bound by any contract (i) any of the benefits to any party of which will be increased, or the vesting of the benefits to any party of which will be accelerated, by the occurrence of any of the Transactions, or the value of any of the benefits to any party of which will be calculated on the basis of the Transactions, or (ii) which (A) is a material contract (as such term is defined in Item 601(b)(10) of Regulation S-K of the SEC), (B) involves aggregate expenditures in excess of $175,000, (C) involves annual expenditures in excess of $65,000 and is not cancelable within 90 days, (D) contains any non-compete or exclusivity restrictions on the Company or any Company Subsidiary with respect to any line of business or geographic area, or which otherwise restricts the conduct of any line of business by the Company or any Company Subsidiary or any geographic area in which the Company or any Company Subsidiary may conduct business, in each case, in any material respect, or (E) which would prohibit or materially delay the consummation of the Merger or the Transactions. Each contract of the type described in this Section 3.13(a) is referred to herein as a Company Material Contract.

(b) Except as would, individually or in the aggregate, reasonably be expected to have a Company Material Adverse Effect, (i) each Company Material Contract is valid and binding on the Company and any of the Company Subsidiaries to the extent the Company or such Company Subsidiary is a party thereto, as applicable, and, to the Company s knowledge, each other party thereto, and in full force and effect, (ii) each Company Material Contract is enforceable against the Company and any of the Company Subsidiaries to the extent the Company or such Company Subsidiary is a party thereto, as applicable, and to the Company s knowledge, the other parties thereto in accordance with the terms thereof, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar Laws of general applicability relating to or affecting creditor s rights generally and by the application of general principles of equity, and (iii) neither the Company nor any Company Subsidiary has received written notice of any violation or default under (or any condition which with the passage of time or the giving of notice would cause such a violation of or default under) any Company Material Contract.

Section 3.14 Litigation. Except as set forth in Section 3.14 of the Company Disclosure Schedule or as otherwise disclosed in the Company SEC Filings filed prior to the date of this Agreement, as of the date of this Agreement, there is no suit, claim, action or proceeding pending or, to the knowledge of the Company, threatened, nor, to the knowledge of the Company, is there any investigation pending, against the Company or any of the Company Subsidiaries and neither the Company nor any Company Subsidiary is subject to any outstanding judgment, order, writ, injunction, or decree, in each case, which has had or would, individually or in the aggregate, reasonably be expected to result in a Company Material Adverse Effect.

Section 3.15 Properties.

(a) As of the date hereof, neither the Company nor any Company Subsidiary owns any real property.

(b) Section 3.15(b) of the Company Disclosure Schedule sets forth, as of the date hereof, a list of all of the leases and subleases pursuant to which the Company and the Company Subsidiaries hold a leasehold or a subleasehold estate in real property (the Company Leases). The Company has delivered or made available to Parent true, correct and

complete copies of the Company Leases, including all amendments, supplements and

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modifications thereto. With respect to the real property leased to the Company and the Company Subsidiaries, each Company Lease for such property is valid, legally binding, enforceable and in full force and effect, and neither the Company nor any Company Subsidiary is in breach of or default under any such Company Lease, and no event has occurred that, with notice, lapse of time or both, would constitute a breach or default by the Company or any Company Subsidiary, permit termination, modification or acceleration by any third party thereunder, or prevent, materially delay or materially impair the consummation of the Transactions except, in each case, for such invalidity, failure to be binding, unenforceability, ineffectiveness, breaches, defaults, terminations, modifications, accelerations or repudiations that, individually or in the aggregate with other such matters, have not had a Company Material Adverse Effect.

Section 3.16 Environmental Matters. Except as set forth in Section 3.16 of the Company Disclosure Schedule or as would not, individually or in the aggregate, reasonably be expected to have a Company Material Adverse Effect:

(a) The Company and each of the Company Subsidiaries are in compliance with applicable Environmental Laws, hold or have applied for all Environmental Permits necessary to conduct their respective current operations and are in compliance with their respective Environmental Permits.

(b) Neither the Company nor any of the Company Subsidiaries has received any written notice, demand, letter, claim or request for information alleging that the Company or any Company Subsidiary is in violation of, or liable under, any Environmental Law.

(c) Neither the Company nor any Company Subsidiary has entered into or agreed to any consent decree or order or is subject to any judgment, decree or judicial order relating to compliance with Environmental Laws, Environmental Permits or the investigation, sampling, monitoring, treatment, remediation, removal or cleanup of Hazardous Materials and, to the knowledge of the Company, no investigation, litigation or other proceeding is pending or threatened in writing with respect thereto.

Section 3.17 Intellectual Property.

(a) Section 3.17 of the Company Disclosure Schedule sets forth a true and complete list of (i) all Intellectual Property owned by the Company and the Company Subsidiaries (Company Owned IP); and (ii) all Intellectual Property subject to in-bound licenses (including software) which, in each case, is material to the respective businesses of the Company and the Company Subsidiaries as currently conducted (the Company Licensed IP and to the extent exclusively licensed to the Company, the Company Exclusively Licensed IP) (notwithstanding anything to the contrary herein, Company Licensed IP shall not include, and therefore Section 3.17 of the Company Disclosure Schedule need not include, any licenses for click-wrap, shrink-wrap or off-the-shelf software).

(b) No holding, decision, or judgment has been rendered in any action or proceeding before any court or administrative authority of competent jurisdiction denying the validity of, the Company s or any Company Subsidiary s right to register or own the Company Owned IP, or the Company s or any Company Subsidiary s right to use or enforce any Company Owned IP or Company Exclusively Licensed IP.

(c) To the Company s knowledge, except as set forth in Section 3.17 of the Company Disclosure Schedule, no third party is infringing upon or otherwise violating any Company Owned IP or Company Exclusively Licensed IP.

(d) To the Company s knowledge, except as set forth in Section 3.17 of the Company Disclosure Schedule, the conduct of each of the Company s and the Company s Subsidiaries respective businesses in the manner currently conducted do not infringe upon or otherwise violate any trademark, patent, copyright, trade secret or other Intellectual Property right

owned or controlled by a third party.

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(e) All patents and patent applications, trademark registrations and applications included in the Company Owned IP and Company Exclusively Licensed IP (i) are subsisting, in full force and effect, (ii) to the knowledge of the Company, are valid and enforceable, (iii) have not expired, been canceled or abandoned (except in the ordinary course of business) and (iv) have had paid all registration, maintenance and renewal fees necessary to preserve the rights of the Company and the Company Subsidiaries in and to such Intellectual Property or will be paid prior to being prejudiced by such failure.

(f) Each of the Company and the Company Subsidiaries has taken action reasonably necessary to maintain and protect the secrecy, confidentiality and value of trade secrets and other confidential information of the Company and the Company Subsidiaries.

(g) Each of the Company and the Company Subsidiaries own or otherwise have the right or license to use all Intellectual Property reasonably necessary to operate its respective business as it is being conducted as of the Effective Time.

(h) Except as set forth in Section 3.17 of the Company Disclosure Schedule, at the Effective Time, the Surviving Corporation shall have the right and license to use the Company Owned IP and the Company Licensed IP, in the same manner and subject to the same limitations and scope as the Company and the Company Subsidiaries had immediately prior to the Effective Time.

(i) As of the date of this Agreement, the computer systems, including the software, firmware, hardware, networks, interfaces, platforms and related systems, used by the Company and the Company Subsidiaries in the conduct of their respective businesses are sufficient for the needs of their business as of the Effective Time.

(j) Except as set forth in Section 3.17 of the Company Disclosure Schedule, no Company Owned IP was developed using (in whole or in part) funding or facilities provided by any Governmental Entity or university, college, other educational institution, international organization or research center, nor was it obtained from any Governmental Entity or university, college or other educational institution, international organization or research center. Except as set forth in Section 3.17 of the Company Disclosure Schedule, to the extent any Company Owned IP was developed (in whole or in part) using funding under a Government Contract, the Company and the Company Subsidiaries are in compliance with all intellectual property terms of such Government Contract regarding the identification, election of title, protection and marking of the Company Owned IP. For purposes of this Agreement, "Government Contract" means any prime contract, subcontract, teaming agreement or arrangement, joint venture, basic ordering agreement, pricing agreement, letter contract, purchase order, task order, delivery order or other similar arrangement of any kind including all modifications, options and extensions, between the Company or any of the Company Subsidiaries, on the one hand, and (a) any Governmental Entity, (b) any prime contractor of a Governmental Entity in its capacity as a prime contractor, or (c) any subcontractor (or lower tier subcontractor) with respect to any contract of a type described in clauses (a) or (b) above, on the other hand; *provided*, *however*, that no supplier agreement or vendor agreement in an amount under the Simplified Acquisition Threshold (as defined in the Federal Acquisition Regulations) shall be deemed a Government Contract hereunder. A task, purchase or delivery order under a Government Contract will not constitute a separate Government Contract, for purposes of this definition, but will be part of the Government Contract to which it relates, unless there is no such Government Contract under which such task, purchase or delivery order was delivered or to which it relates.

Section 3.18 Taxes.

(a) The Company and each Company Subsidiary have timely filed all Tax Returns with the appropriate taxing authority required to be filed, taking into account any extensions of time within which to file such Tax Returns, and all

such Tax Returns were complete and correct in all material respects as of the time of such filing. All Taxes that are shown as due on such filed Tax Returns have been paid, except for amounts being contested in good faith by appropriate proceedings and for which adequate reserves therefor have been maintained in accordance with GAAP.

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(b) There are no audits or other administrative proceedings or court proceedings presently pending with regard to any Taxes or Tax Returns of the Company or the Company Subsidiaries, and neither the Company nor any Company Subsidiary has received a written notice or announcement of any audits or proceedings. No requests for waivers of time to assess any Taxes are pending, and neither the Company nor any Company Subsidiary has waived any statute of limitations with respect to Taxes or agreed to any extension of time with respect to any Tax assessment or deficiency for any open tax year.

(c) There are no Tax liens upon any property or assets of the Company or any of the Company Subsidiaries except liens for current or accrued Taxes not yet due and payable and liens for Taxes that are being contested in good faith by appropriate proceedings.

(d) The Company and each Company Subsidiary has complied in all material respects with all applicable Laws, rules and regulations relating to the withholding of Taxes and the payment thereof to appropriate authorities, including Taxes required to have been withheld and paid in connection with amounts paid or owing to any employee or independent contractor, and Taxes required to be withheld and paid pursuant to Sections 1441 and 1442 of the Code or similar provisions under federal, state, local and foreign Law, and their respective records contain information and documents (including properly completed IRS Forms W-9) necessary to materially comply with the applicable information reporting and Tax withholding requirements under federal, state, and local Tax Laws.

(e) The Company has not engaged in a listed transaction within the meaning of Treasury Regulation Section 1.6011-4(b).

(f) None of the Company, the Company Subsidiaries or, to the knowledge of the Company, any of their respective affiliates has taken or agreed to take any action that would prevent the Merger from qualifying as a reorganization within the meaning of Section 368(a) of the Code. The Company is not aware of any agreement, plan or other circumstance that would prevent the Merger from qualifying as a reorganization within the meaning of Section 368(a) of the Code.

(g) To the Company s knowledge, since January 1, 2008, no claim has ever been made or threatened in writing by any taxing authority in a jurisdiction where the Company or a Company Subsidiary does not file Tax Returns that it is or may be subject to taxation by that jurisdiction.

(h) Neither the Company nor any Company Subsidiary (i) is a party to any Tax allocation or other tax sharing agreement (other than agreements among the Company and any Company Subsidiary and other than customary indemnifications for Taxes contained in credit or other commercial agreements the primary purposes of which do not relate to Taxes), (ii) has been a member of an affiliated group filing a consolidated federal income Tax Return (other than a group the common parent of which was the Company), or (iii) is liable or responsible for the Tax Liability of any other person under Treasury Regulation Section 1.1502-6 or any similar provision of state, local or foreign Law (other than the other members of the consolidated group of which the Company is parent), or as a transferee or successor (other than customary indemnifications for Taxes contained in credit or other commercial agreements the primary purposes of which do not relate to Taxes).

(i) The Company will not be required to include any item of income in, or exclude any item of deduction from, taxable income for any taxable period (or portion thereof) beginning after the Effective Time as a result of (i) a change in method of accounting for a taxable period ending on or prior to the Effective Time, including any adjustment under Section 481(c) of the Code (or any corresponding provision of state, local or foreign Law), (ii) any closing agreement, as described in Section 7121 of the Code (or any corresponding provision of state, local or foreign Law) executed on or prior to the Effective Time, or (iii) the receipt of any prepaid revenue received on or prior to the Effective Time

outside the ordinary course of business.

(j) Within the last two years, the Company has not distributed stock of another person or has had its stock distributed by another person in a transaction that was purported or intended to be governed in whole or in part by Code §355 or Code §361.

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(k) Neither the Company nor any Company Subsidiary has made any payments, is or will be obligated to make any payments (whether as a result of the Transactions or otherwise), or is a party to any contract that could obligate it to make any payments that could be disallowed as a deduction under Section 280G or 162(m) of the Code. Neither the Company nor any Company Subsidiary will be required to include any adjustment in taxable income for any Tax period (or portion thereof) beginning after the Effective Time pursuant to Section 481 of the Code or any comparable provision under state or foreign Tax Laws as a result of transactions or events occurring prior to the Effective Time. The net operating losses of the Company and the Company Subsidiaries are not subject to any limitation on their use under the provisions of Sections 382 or 269 of the Code or any other provisions of the Code or the Treasury Regulations dealing with the utilization of net operating losses.

(l) The Company has adequately disclosed on its federal income Tax Returns all positions taken therein that could give rise to a substantial understatement of federal income Tax within the meaning of Section 6662 of the Code, but for such disclosure, or that is a transaction that is reportable under Treas. Reg. § 1.6011-4.

Section 3.19 Certain Business Relationships With Affiliates. Since January 1, 2011 and prior to the date hereof, no event has occurred that would be required to be reported by the Company as a transaction with related persons, promoters and certain control persons pursuant to Item 404 of Regulation S-K promulgated by the SEC that was not so reported.

Section 3.20 Insurance. Section 3.20 of the Company Disclosure Schedule sets forth, as of the date hereof, all material policies of liability, property, casualty and other forms of insurance owned or held by the Company and the Company Subsidiaries, copies of which have previously been made available to Parent. Excluding any such policies that have expired and been replaced in the ordinary course of business, as of the date hereof, all such policies are in full force and effect, all premiums due and payable have been paid, and no written notice of cancellation or termination has been received by the Company with respect to any such policy.

Section 3.21 Opinion of Financial Advisors. The Company Board has received the opinion of Griffin Securities, Inc. (the Company Financial Advisor) to the effect that, as of the date of such opinion and subject to various qualifications and assumptions, the Merger Consideration to be received by holders of the Company Common Stock in the Merger is fair from a financial point of view to such holders.

Section 3.22 Vote Required. The affirmative vote of the holders of a majority of the outstanding shares of Company Common Stock (the Required Company Stockholders) to approve this Agreement (the Company Stockholder Approval) is the only vote of the holders of any class or series of capital stock or other Equity Interests of the Company necessary to approve this Agreement, and to consummate the Transactions, including the Merger.

Section 3.23 Brokers. No broker, finder or investment banker (other than the Company Financial Advisor) is entitled to any brokerage, finder s or other fee or commission in connection with the Merger or the Transactions based upon arrangements made by or on behalf of the Company. The fee payable to the Company Financial Advisor in connection with the Merger or the Transactions is as set forth in the copy of the letter agreement previously provided to Parent, entered into by the Company and the Company Financial Advisor as of December 5, 2013.

Section 3.24 Foreign Corrupt Practices Act. The Company and the Company Subsidiaries are in compliance with the U.S. Foreign Corrupt Practices Act of 1977, as amended through the date of this Agreement (the FCPA), to the extent applicable to the Company and the Company Subsidiaries. None of the Company and the Company Subsidiaries nor any of their respective Representatives have made, directly or indirectly, any payment or promise to pay, or gift or promise to give or authorized such a promise or gift, of any money or anything of value, directly or indirectly, to (a) any foreign official (as such term is defined in the FCPA) for the purpose of influencing any official act or decision

of such official or inducing him or her to use his or her influence to affect

any act or decision of a governmental authority or (b) any foreign political party or official thereof or candidate for foreign political office for the purpose of influencing any official act or decision of such party, official or candidate or inducing such party, official or candidate to use his, her or its influence to affect any act or decision of a foreign governmental authority, in the case of both clauses (a) and (b) above in order to assist the Company, the Company Subsidiaries or any of their respective related persons or licensees to obtain or retain business for, or direct business to the Company, the Company Subsidiaries or any of their respective related persons or licensee, as applicable. None of the Company and the Company Subsidiaries nor any of their respective Representatives has made any bribe, rebate, payoff, influence payment, kickback or other unlawful payment of funds or received or retained any funds in violation of any Law, rule or regulation and there is no investigation pending or, to the knowledge of the Company, threatened, in each case, against the Company or any Company Subsidiary in connection with same.

Section 3.25 Compliance with Office of Foreign Assets Control.

(a) None of the Company and the Company Subsidiaries, or any of their respective Representatives, is an OFAC Sanctioned Person (as defined below). The Company and the Company Subsidiaries and, to the knowledge of the Company, their respective Representatives are in compliance with, and have not previously violated, the USA Patriot Act of 2001, as amended through the date of this Agreement, to the extent applicable to the Company and the Company Subsidiaries and all other applicable anti-money laundering laws and regulations. None of (i) the execution, delivery and performance of this Agreement or (ii) the consummation of the Transactions, will result in a violation by the Company or any Company Subsidiary of any of the OFAC Sanctions (as defined below) or of any anti-money laundering laws of the United States or any other applicable jurisdiction.

(b) For the purposes of Section 3.25(a) and Section 4.16:

(i) OFAC Sanctions means any sanctions program administered by the Office of Foreign Assets Control of the U.S. Department of the Treasury (OFAC) under authority delegated to the Secretary of the Treasury by the President of the United States or provided to the Secretary of the Treasury by statute, and any order or license issued by, or under authority delegated by, the President or provided to the Secretary of the Treasury by statute in connection with a sanctions program thus administered by OFAC. For ease of reference, and not by way of limitation, OFAC Sanctions programs are described on OFAC's website at www.treas.gov/ofac.

(ii) OFAC Sanctioned Person means any government, country, corporation or other entity, group or individual with whom or which the OFAC Sanctions prohibit a U.S. Person from engaging in transactions, and includes without limitation any individual or corporation or other entity that appears on the current OFAC list of Specially Designated Nationals and Blocked Persons. For ease of reference, and not by way of limitation, OFAC Sanctioned Persons other than governments and countries can be found on the OFAC list of Specially Designated Nationals and Blocked Persons on OFAC's website at www.treas.gov/offices/enforcement/ofac/sdn.

(iii) U.S. Person means any U.S. citizen, permanent resident alien, entity organized under the laws of the United States (including foreign branches), or any person (individual or entity) in the United States, and, with respect to OFAC s Cuban Assets Control Regulations, also includes any corporation or other entity that is owned or controlled by one of the foregoing, without regard to where it is organized or doing business.

Section 3.26 Foreign Law Equivalent. In each instance in Article III where a representation and warranty is made with respect to a specific United States law, ordinance, code, regulation, statute or treaty regarding the Company or the Company Subsidiaries, the Company hereby also make the same representation and warranty as to each and every foreign law ordinance, code, regulation, statute and treaty that is the same or similar to such United States law, ordinance, code, regulation, statute or treaty and is specifically applicable to the Company and/or the Company

Subsidiaries with respect to such representation and warranty.

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Section 3.27 No Other Representations or Warranties. Except for the representations and warranties made by the Company in this Article III, none of the Company, any of the Company Subsidiaries or any other person makes any representation or warranties on behalf of the Company, and the Company hereby disclaims any other representations or warranties, with respect to the Company, the Company Subsidiaries, or its or their businesses, operations, assets, liabilities, condition (financial or otherwise) or prospects or the negotiation, execution, delivery or performance of this Agreement by the Company.

ARTICLE IV

REPRESENTATIONS AND WARRANTIES OF PARENT AND MERGER SUB

Subject to Section 8.13, except as set forth in the Disclosure Schedule delivered by Parent and Merger Sub to the Company prior to the execution of this Agreement (the Parent Disclosure Schedule), or in the Parent SEC Filings filed or furnished prior to the date of this Agreement (excluding any disclosures set forth in any risk factors section or any disclosure of risks included in any forward-looking statements disclaimer to the extent that such disclosures are general in nature or cautionary, predictive or forward-looking in nature), Parent and Merger Sub hereby jointly and severally represent and warrant to the Company as follows:

Section 4.1 Organization and Qualification. Parent is a corporation duly organized, validly existing and in good standing under the laws of the Commonwealth of Virginia. Merger Sub is a corporation duly organized, validly existing and in good standing under the laws of the State of Nevada. Each of Parent and Merger Sub has all requisite power and authority to own, lease and operate its properties and to carry on its business as it is now being conducted. Each of Parent and Merger Sub is duly qualified or licensed to do business, and is in good standing, in each jurisdiction where the character of the properties owned, leased or operated by it or the nature of its business makes such qualification, licensing or good standing necessary, except for such failures to be so qualified, licensed or in good standing that would not, individually or in the aggregate, reasonably be expected to have a Parent Material Adverse Effect.

Section 4.2 Articles of Incorporation and Bylaws. The copies of Parent s Articles of Incorporation (the Parent Articles) and Bylaws (the Parent Bylaws and, together with the Parent Articles, the Parent Governing Documents) that are attached as Section 4.2 of the Parent Disclosure Schedule are complete and correct copies thereof as in effect on the date hereof. The copies of the Merger Sub Governing Documents that are attached as Section 4.2 to the Parent Disclosure Schedule are complete and correct copies thereof as in effect on the date hereof. The Parent Governing Documents and Merger Sub Governing Documents are in full force and effect. Parent and Merger Sub are in compliance with the material terms of the Parent Governing Documents and Merger Sub Governing Documents, respectively.

Section 4.3 Capitalization.

(a) The authorized capital stock of the Parent consists of 225,000,000 shares of capital stock, of which 200,000,000 are designated common stock, no par value per share (Parent Common Stock), and 25,000,000 are designated preferred stock, no par value per share (Parent Preferred Stock). As of the close of business on November 30, 2013, (a) 97,048,750 shares of Parent Common Stock were issued and outstanding, all of which were validly issued and fully paid, nonassessable and free of preemptive rights, (b) no shares of Parent Common Stock were held by the Parent Subsidiaries and (c) 2,621,365 shares of Parent Common Stock were issuable (and such number was reserved for issuance) upon exercise of options to purchase Parent Common Stock (Parent Options) outstanding as of such date. As of the date hereof, no shares of Parent Preferred Stock were issued and outstanding.

(b) As of the close of business on November 30, 2013, except for (i) Parent Options to purchase not more than 2,621,365 shares of Parent Common Stock, (ii) 414,404 shares of Parent Common Stock issuable upon exercise of warrants to purchase Parent Common Stock outstanding as of such date and (iii) other arrangements

and agreements set forth in Section 4.3 of the Parent Disclosure Schedule, there are no options, warrants or other rights to acquire capital stock or other Equity Interests from Parent, or securities convertible into or exchangeable for such capital stock or other Equity Interests. Since the close of business on November 30, 2013 through the date hereof, Parent has not issued any shares of its capital stock or other Equity Interests, or securities convertible into or exchangeable for such capital stock or other Equity Interests, other than shares of capital stock reserved for issuance as provided in this Section 4.3 or as set forth in Section 4.3 of the Parent Disclosure Schedule. All shares of Parent Common Stock subject to issuance upon exercise of the Parent Options, upon issuance prior to the Effective Time on the terms and conditions specified in the instruments pursuant to which they are issuable, will be duly authorized, validly issued, fully paid, nonassessable and free of preemptive rights. The shares of Parent Common Stock to be issued in connection with the Merger, when issued as contemplated herein, will be duly authorized, validly issued, fully paid and nonassessable and will not be in violation of any preemptive rights.

(c) Except with respect to the Parent Options and any related grant agreements, there are no outstanding contractual obligations of Parent or any Parent Subsidiary (i) restricting the transfer of, (ii) affecting the voting rights of, (iii) requiring the repurchase, redemption or disposition of, or containing any right of first refusal with respect to, (iv) requiring the registration for sale of, or (v) granting any preemptive or antidilutive right with respect to, any shares of Parent Common Stock or any capital stock of, or other Equity Interests in, Parent. All outstanding securities of Parent have been offered and issued in compliance in all material respects with all applicable securities laws, including the Securities Act and any applicable U.S. state securities and Blue Sky Laws.

(d) Neither Parent nor Merger Sub owns, or prior to the Effective Time, will own, beneficially or of record, any shares of capital stock of the Company.

Section 4.4 Authority. Each of Parent and Merger Sub has all necessary corporate power and authority to execute and deliver this Agreement, to perform its obligations hereunder and to consummate the Transactions to be consummated by it. The execution and delivery of this Agreement by each of Parent and Merger Sub, as applicable, and the consummation by Parent and Merger Sub of the Transactions have been duly and validly authorized by all necessary corporate action (including approval by Parent as sole stockholder of Merger Sub) and no other corporate proceedings on the part of Parent and Merger Sub and no other stockholder votes by Parent s or Merger Sub s stockholders are necessary to authorize this Agreement or the Merger or to consummate the Transactions. This Agreement has been duly authorized and validly executed and delivered by Parent and Merger Sub and, assuming due authorization, execution and delivery by the Company, constitutes a legal, valid and binding obligation of Parent and Merger Sub, enforceable against Parent and Merger Sub in accordance with its terms, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium or similar Laws relating to or affecting creditors generally and by general equitable principles (regardless of whether such enforceability is considered in a proceeding in equity or at law).

Section 4.5 No Conflict; Required Filings and Consents.

(a) The execution and delivery of this Agreement by Parent and Merger Sub does not, and the performance of this Agreement by Parent and Merger Sub will not, (i) conflict with or violate any provision of the Parent Governing Documents or the Merger Sub Governing Documents, (ii) assuming that all consents, approvals, authorizations and permits described in Section 4.5(b) have been obtained and all filings and notifications described in Section 4.5(b) have been made and any waiting periods thereunder have terminated or expired, conflict with or violate any Law applicable to Parent or Merger Sub or any other entity that is a subsidiary of Parent (each a Parent Subsidiary and, collectively, the Parent Subsidiaries) or by which any property or asset of Parent, Merger Sub or any Parent Subsidiary is bound or affected or (iii) except as set forth in Section 4.5(a) of the Parent Disclosure Schedule, require any consent or approval under, result in any breach of, or any loss of any benefit under, or constitute a default (or an

event which with notice or lapse of time or both would become a default) under, or give to others any right of termination, amendment, acceleration or cancellation of, or result in the creation of a lien or other encumbrance on any property or asset of Parent, Merger

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Sub or any Parent Subsidiary pursuant to, any note, bond, mortgage, indenture, contract, agreement, lease, license, Permit or other instrument or obligation to which Parent, Merger Sub or any Parent Subsidiary is party, except, as to clauses (ii) and (iii), respectively, for any such conflicts, violations, breaches, defaults, failures to obtain consent or approval or other occurrences as would not reasonably be expected to have, individually or in the aggregate, a Parent Material Adverse Effect. The Transactions will not require the consent or approval of any Governmental Authority with respect to antitrust Laws.

(b) The execution and delivery of this Agreement by Parent and Merger Sub does not, and the performance of this Agreement by Parent and Merger Sub will not, require any consent, approval, authorization or permit of, or filing with or notification to, any Governmental Entity, except (i) under the Exchange Act, the Securities Act, any applicable Blue Sky Laws, the rules and regulations of the Exchange and filing and recordation of the Articles of Merger as required by the NRS or (ii) where failure to obtain such consents, approvals, authorizations or permits, or to make such filings or notifications, would not, individually or in the aggregate, reasonably be expected to have a Parent Material Adverse Effect.

Section 4.6 Permits; Compliance with Law. (a) Parent, Merger Sub and each other Parent Subsidiary is conducting, and since January 1, 2011, has conducted, its business in compliance in all material respects with all Laws applicable to such entities and have not received any written notice of non-compliance with respect to any applicable Laws, (b) Parent, Merger Sub and each other Parent Subsidiary hold all material Permits necessary for the ownership, lease and operation of its properties and assets, and such Permits are in full force and effect, and (c) from January 1, 2011, through the date of this Agreement, none of Parent, Merger Sub nor any other Parent Subsidiary has received any written communication from any Governmental Entity that (i) alleges that Parent, Merger Sub or any other Parent Subsidiary is not in compliance with any material Permit or Law applicable to it or (ii) informs Parent that any investigation or review by any Governmental Entity is pending with respect to Parent, Merger Sub or any other Parent Subsidiary or any of their respective properties or assets or that any such investigation or review is currently contemplated.

Section 4.7 SEC Filings; Financial Statements.

(a) Since August 7, 2013, Parent has timely filed with or furnished to the SEC all registration statements, prospectuses, forms, reports, definitive proxy statements, schedules and documents required to be filed by it under the Securities Act or the Exchange Act, as the case may be, from and after August 7, 2013 (collectively, the Parent SEC Filings). Each Parent SEC Filing, as amended or supplemented if applicable, (i) as of its date, or, if amended, as of the date of the last such amendment, complied in all material respects with the applicable requirements of the Securities Act, the Exchange Act and the Sarbanes-Oxley Act, as the case may be, and the rules and regulations of the SEC thereunder, applicable to such Parent SEC Filing, and (ii) did not, at the time it was filed (or became effective in the case of registration statements), or, if amended, as of the date of the last such amendment, contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements made therein, in the light of the circumstances under which they were made, not misleading. As of the date of this Agreement, there are no outstanding or unresolved comments in comment letters received from the SEC staff with respect to Parent SEC Filings and, to the knowledge of Parent none of the Parent SEC Filings is the subject of ongoing SEC review, outstanding SEC comment or outstanding SEC investigation. No Parent Subsidiary is required to file periodic reports with the SEC pursuant to the Exchange Act. Parent has made available to the Company complete and accurate copies of all reports, documents, claims, notices, filings, minutes, transcripts, recordings and other material correspondence between Parent and any of the Parent Subsidiaries, on the one hand, and the SEC, on the other hand, since January 1, 2012.

(b) Each of the consolidated financial statements (including, in each case, any notes thereto) contained in the Parent SEC Filings, as amended, supplemented or restated, if applicable, was prepared in accordance with GAAP applied (except as may be indicated in the notes thereto and, in the case of unaudited quarterly financial statements, as permitted by Form 10-Q under the Exchange Act) on a consistent basis throughout the periods indicated (except as may be indicated in the notes thereto), and each presented fairly, in all material respects, the

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consolidated financial position, results of operations and cash flows of Parent and the consolidated Parent Subsidiaries as of the respective dates thereof and for the respective periods indicated therein (subject, in the case of unaudited quarterly financial statements, to normal year-end adjustments).

(c) Parent has implemented and maintains disclosure controls and procedures (as defined in Rule 13a-15(d) of the Exchange Act) that are reasonably designed to ensure that information required to be disclosed by Parent in the reports it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time frames specified by the SEC s rules and forms (and such disclosure controls and procedures are reasonably effective), and has disclosed, based on its most recent evaluation of its system of internal control over financial reporting prior to the date of this Agreement, to Parent s outside auditors and the audit committee of Parent s board of directors (i) any significant deficiencies and material weaknesses known to it in the design or operation of its internal control over financial reporting (as defined in Rule 13a-15(f) of the Exchange Act) that would reasonably be expected to adversely affect Parent s ability to record, process, summarize and report financial information and (ii) any fraud known to it, that involves management or other employees who have a significant role in Parent s internal control over financial reporting.

(d) Except as and to the extent set forth (i) on the consolidated balance sheet of Parent and the consolidated Parent Subsidiaries as of December 31, 2012 included in Parent s registration statement on Form S-1 filed on May 10, 2013, as amended, including the notes thereto, or (ii) in the Parent SEC Filings filed after August 7, 2013, none of Parent or any consolidated Parent Subsidiary has any liabilities or obligations of any nature (whether accrued, absolute, contingent or otherwise) that would be required to be reflected or reserved against on a balance sheet prepared in accordance with GAAP and none have arisen since such date, except for liabilities or obligations (A) under this Agreement or incurred in connection with the Transactions, (B) incurred in the ordinary course of business consistent with past practice since December 31, 2012, (C) that would not, individually or in the aggregate, reasonably be expected to have a Parent Material Adverse Effect or (D) incurred at the request or with the consent of the Company.

Section 4.8 Disclosure Documents.

(a) The Registration Statement and any Other Filings, and any amendments or supplements thereto, that Parent is responsible for filing at (i) the time the Registration Statement is declared effective, (ii) the time the Proxy Statement or such Other Filings (or any amendment thereof or supplement thereto) is first mailed to the stockholders of the Company and (iii) the time of the Company Stockholders Meeting, as applicable, will comply as to form in all material respects with the applicable requirements of the Securities Act, the Exchange Act and other applicable Law.

(b) None of the information supplied by Parent or Merger Sub for use in the Registration Statement or Proxy Statement, and any amendments or supplements thereto, at (i) the time the Registration Statement is declared effective, (ii) the time the Proxy Statement (or any amendment thereof or supplement thereto) is first mailed to the stockholders of the Company, and (iii) the time of the Company Stockholders Meeting, in each case, will contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading. None of the information supplied by Parent or Merger Sub for use in any Other Filing, at the time such Other Filing (or any amendment thereof or supplement thereto) is first mailed to the stockholders of the Company, will contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading.

(c) The representations and warranties contained in this Section 4.8 will not apply to statements or omissions included in the Proxy Statement, Registration Statement or any Other Filings based upon information supplied to Parent or Merger Sub by the Company for use therein.

Section 4.9 Absence of Material Adverse Effect. Since January 1, 2013, there has not been any state of facts, change, event, effect or occurrence that has had, individually or in the aggregate, a Parent Material Adverse Effect.

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Section 4.10 Material Contracts. Except as filed as exhibits to the Parent SEC Filings filed prior to the date of this Agreement, as of the date of this Agreement, neither Parent nor any Parent Subsidiary, nor any of their respective assets, properties, businesses or operations is a party to, bound or affected by, or receives benefits under any contract which is a material contract (as such term is defined in Item 601(b)(10) of Regulation S-K of the SEC) (a Parent Material Contract). Except as would not, individually or in the aggregate, be reasonably expected to have a Parent Material Adverse Effect, (i) each Parent Material Contract is valid and binding on Parent and any of the Parent Subsidiaries to the extent Parent or such Parent Subsidiary is a party thereto, as applicable, and, to Parent s knowledge, each other party thereto, and in full force and effect, (ii) each Parent Material Contract is enforceable against Parent and any of the Parent Subsidiaries to the extent Parent or such Parent Subsidiary is a party thereto, as applicable, and to Parent s knowledge, the other parties thereto in accordance with the terms thereof, except as such enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar Laws of general applicability relating to or affecting creditor s rights generally and by the application of general principles of equity, and (iii) neither Parent nor any Parent Subsidiary has received written notice of any violation or default under (or any condition which with the passage of time or the giving of notice would cause such a violation of or default under) any Parent Material Contract.

Section 4.11 Litigation. Except as set forth in Section 4.11 of the Parent Disclosure Schedule or as otherwise disclosed in the Parent SEC Filings filed prior to the date of this Agreement, as of the date of this Agreement, there is no suit, claim, action or proceeding pending or, to the knowledge of Parent, threatened, nor, to the knowledge of Parent, is there any investigation pending, in each case, against Parent or any Parent Subsidiary, and neither Parent nor any Parent Subsidiary is subject to any outstanding order, writ, injunction, decree or arbitration ruling, award or other finding, in each case, which has had, individually or in the aggregate, a Parent Material Adverse Effect.

Section 4.12 Ownership of Merger Sub; No Prior Activities.

(a) Merger Sub was formed solely for the purpose of engaging in the Transactions.

(b) All of the outstanding capital stock of Merger Sub is owned directly by Parent. There are no options, warrants or other rights (including registration rights), agreements, arrangements or commitments to which Merger Sub is a party of any character relating to the issued or unissued capital stock of, or other Equity Interests in, Merger Sub or obligating Merger Sub to grant, issue or sell any shares of the capital stock of, or other Equity Interests in, Merger Sub, by sale, lease, license or otherwise. There are no obligations, contingent or otherwise, of Merger Sub to repurchase, redeem or otherwise acquire any shares of the capital stock of Merger Sub.

(c) Except for obligations or liabilities incurred in connection with its incorporation or organization and the Transactions, Merger Sub has not and will not have incurred, directly or indirectly, through any subsidiary or affiliate, any obligations or liabilities or engaged in any business activities of any type or kind whatsoever or entered into any agreements or arrangements with any person.

Section 4.13 Intellectual Property.

(a) No holding, decision, or judgment has been rendered in any action or proceeding before any court or administrative authority of competent jurisdiction denying the validity of, Parent s right to register or own the Parent Owned IP, or Parent s right to use or enforce any Parent Owned IP that is material to the business of the Parent or, to the Parent s knowledge, any Parent Exclusively Licensed IP that is material to the business of the Parent.

(b) To Parent s knowledge, except as set forth in Section 4.13 of the Parent Disclosure Schedule, no third party is infringing upon or otherwise violating any material Parent Owned IP, except as would not reasonably be expected to

cause a Parent Material Adverse Effect.

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(c) To Parent s knowledge, except as set forth in Section 4.13 of the Parent Disclosure Schedule, the conduct of the Parent s business in the manner currently conducted does not infringe upon or otherwise violate any trademark, patent, copyright, trade secret or other Intellectual Property right owned or controlled by a third party.

(d) To the knowledge of Parent, all patents and patent applications, trademark registrations and applications included in the Parent Owned IP and which are material to the business of Parent are valid and enforceable.

Section 4.14 Tax Matters. Subject in each case to such exceptions as would not, individually or in the aggregate, reasonably be expected to have a Parent Material Adverse Effect:

(a) Parent and each Parent Subsidiary has timely filed all Tax Returns with the appropriate taxing authority required to be filed, taking into account any extensions of time within which to file such Tax Returns, and all such Tax Returns were complete and correct. All Taxes that are shown as due on such filed Tax Returns have been paid, except for amounts being contested in good faith by appropriate proceedings and for which adequate reserves therefor have been maintained in accordance with GAAP.

(b) There are no audits or other administrative proceedings or court proceedings presently pending with regard to any Taxes or Tax Returns of Parent or any Parent Subsidiary and neither Parent nor any Parent Subsidiary has received a written notice or announcement of any audits or proceedings. No requests for waivers of time to assess any Taxes are pending, and neither Parent nor any Parent Subsidiary has waived any statute of limitations with respect to Taxes or agreed to any extension of time with respect to any Tax assessment or deficiency for any open tax year.

(c) There are no Tax liens upon any property or assets of Parent or any Parent Subsidiary except liens for current Taxes not yet due and payable and liens for Taxes that are being contested in good faith by appropriate proceedings.

(d) All Taxes that Parent and each Parent Subsidiary have been required to collect or withhold have been duly collected or withheld and, to the extent required when due, have been or will be duly paid to the proper Governmental Entity.

(e) Neither Parent nor any Parent Subsidiary has engaged in a listed transaction within the meaning of Treasury Regulation Section 1.6011-4(b).

(f) Neither Parent nor any Parent Subsidiary or, to the knowledge of Parent, any of Parent s affiliates has taken or agreed to take any action that would prevent the Merger from qualifying as a reorganization within the meaning of Section 368(a) of the Code. Parent is not aware of any agreement, plan or other circumstance that would prevent the Merger from qualifying as a reorganization within the meaning of Section 368(a) of the Code.

(g) To the Parent s knowledge, since January 1, 2008, no claim has ever been made by any taxing authority in a jurisdiction where Parent or any Parent Subsidiary does not file Tax Returns that it is or may be subject to taxation by that jurisdiction.

(h) Neither Parent nor any Parent Subsidiary is a party to any Tax allocation, sharing, indemnity, or reimbursement agreement or arrangement (excluding any such agreements pursuant to customary provisions in contracts not primarily related to Taxes) under which Parent or any Parent Subsidiary would be liable after the Effective Time for the Tax liability of an entity that is not Parent or a Parent Subsidiary.

(i) Neither Parent nor any Parent Subsidiary has ever been a member of an affiliated group within the meaning of Section 1504(a) of the Code (or any similar group defined under a similar provision of foreign, state

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or local Law), other than a group of which Parent is the common parent, and neither Parent nor any Parent Subsidiary has any liability for Taxes of any person (other than Parent or a Parent Subsidiary) under Section 1.1502-6 of the Treasury Regulations (or any similar provision of foreign, state or local Law), as a transferee or successor, by contract or otherwise.

(j) Neither Parent nor any Parent Subsidiary will be required to include any material item of income in, or exclude any material item of deduction from, taxable income for any taxable period (or portion thereof) beginning after the Effective Time as a result of (i) a change in method of accounting for a taxable period ending on or prior to the Effective Time, including any adjustment under Section 481(c) of the Code (or any corresponding provision of state, local or foreign Law), (ii) any closing agreement, as described in Section 7121 of the Code (or any corresponding provision of state, local or foreign Law) executed on or prior to the Effective Time, or (iii) the receipt of any prepaid revenue received on or prior to the Effective Time.

(k) Within the last two years, neither Parent nor any Parent Subsidiary has distributed stock of another person or has had its stock distributed by another person in a transaction that was purported or intended to be governed in whole or in part by Code § 355 or Code § 361

(l) Parent and Parent Subsidiaries have disclosed on their federal income Tax Returns all positions taken therein that could give rise to a substantial understatement of federal income Tax within the meaning of Section 6662 of the Code, but for such disclosure, or that is a transaction that is reportable under Treas. Reg. § 1.6011-4.

Section 4.15 Foreign Corrupt Practices Act. Parent, Merger Sub and the other Parent Subsidiaries are in compliance with the FCPA, to the extent applicable to Parent, Merger Sub and the other Parent Subsidiaries. None of Parent, Merger Sub nor any other Parent Subsidiary, or any of their respective Representatives have made, directly or indirectly, any payment or promise to pay, or gift or promise to give or authorized such a promise or gift, of any money or anything of value, directly or indirectly, to (a) any foreign official (as such term is defined in the FCPA) for the purpose of influencing any official act or decision of such official or inducing him or her to use his or her influence to affect any act or decision of a governmental authority or (b) any foreign political party or official thereof or candidate for foreign political office for the purpose of influencing any official act or decision of such party, official or candidate or inducing such party, official or candidate to use his, her or its influence to affect any act or decision of a foreign governmental authority, in the case of both clauses (a) and (b) above in order to assist Parent, Merger Sub or any other Parent Subsidiary, or any of their respective related persons or licensees to obtain or retain business for, or direct business to Parent, Merger Sub or any other Parent Subsidiary or any of their respective related persons or licensee, as applicable. None of Parent, Merger Sub nor any other Parent Subsidiary or any of their respective Representatives has made any bribe, rebate, payoff, influence payment, kickback or other unlawful payment of funds or received or retained any funds in violation of any Law, rule or regulation and there is no investigation pending or, to the knowledge of Parent, threatened, in each case, against Parent, Merger Sub or any other Parent Subsidiary in connection with same.

Section 4.16 Compliance with Office of Foreign Assets Control. None of Parent, Merger Sub nor any other Parent Subsidiary, or, to the knowledge of Parent, any of their respective Representatives, is an OFAC Sanctioned Person. Parent, Merger Sub and the other Parent Subsidiaries and their respective Representatives are in compliance with, and have not previously violated, the USA Patriot Act of 2001, as amended through the date of this Agreement, to the extent applicable to Parent, Merger Sub and the other Parent Subsidiaries and all other applicable anti-money laundering laws and regulations. None of (i) the execution, delivery and performance of this Agreement or (ii) the consummation of the Transactions, will result in a violation by Parent, Merger Sub or any other Parent Subsidiary of any of the OFAC Sanctions or of any anti-money laundering laws of the United States or any other applicable jurisdiction.

Section 4.17 No Vote Required. No vote or other action by the shareholders of Parent is required by Law, the Parent Governing Documents or otherwise in order for Parent and Merger Sub to consummate the Merger and the Transactions.

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Section 4.18 Availability of Funds. At the Closing, Parent will have sufficient funds available to timely pay the Cash Consideration and all fees, expenses and other amounts contemplated to be paid by Parent or its affiliates under this Agreement.

Section 4.19 No Other Representations or Warranties. Except for representations and warranties made by Parent and Merger Sub in this Article IV, none of Parent, Merger Sub, any of the Parent Subsidiaries or any other person makes any representation or warranties on behalf of Parent or Merger Sub, and Parent and Merger Sub hereby disclaim any other representations or warranties, with respect to Parent, Merger Sub, the Parent Subsidiaries or its or their businesses, operations, assets, liabilities, condition (financial or otherwise) or prospects or the negotiation, execution, delivery or performance of this Agreement by Parent and Merger Sub.

ARTICLE V

COVENANTS

Section 5.1 Conduct of Business by the Company Pending the Closing. The Company agrees that, between the date of this Agreement and the Effective Time or, except as set forth in Section 5.1 of the Company Disclosure Schedule, as specifically contemplated by any other provision of this Agreement or as required by applicable Law or the regulations or requirements of the OTCQB, unless Parent shall otherwise consent in writing (which consent shall not be unreasonably withheld, conditioned or delayed), the Company will (A) conduct its operations in the ordinary and usual course of business substantially consistent with past practice and (B) use its commercially reasonable efforts to preserve substantially intact its business organization and goodwill, except that the Company may consummate an equity or debt financing on or after March 12, 2014 if the merger has not been consummated by March 12, 2014 (a Permitted Financing) as long as the terms and conditions of such Permitted Financing are reasonable, customary and consistent with comparable market transactions and such Permitted Financing would not be an Acquisition Proposal. Between the date of this Agreement and the Effective Time, the Company will periodically provide Parent updates regarding any material developments regarding the Company or its operations. Without limiting the foregoing, and as an extension thereof, except as set forth in Section 5.1 of the Company Disclosure Schedule, as specifically contemplated by any other provision of this Agreement or as required by applicable Law or the regulations or requirements of the OTCQB, the Company shall not, between the date of this Agreement and the Effective Time, directly or indirectly, do any of the following without the prior written consent of Parent (which consent shall not be unreasonably withheld, conditioned or delayed):

(a) amend or otherwise change its articles of incorporation or bylaws or equivalent Organizational Documents, except in connection with a Permitted Financing;

(b) (i) issue or authorize the issuance of any shares of capital stock of, or other Equity Interests in, the Company of any class, or securities convertible or exchangeable or exercisable for any shares of such capital stock or other Equity Interests, or any options, warrants or other rights of any kind to acquire any shares of such capital stock or other Equity Interests or such convertible or exchangeable securities of the Company, other than the issuance of (A) Company Common Stock upon the exercise of Company Options outstanding on the date hereof, (B) Company Common Stock upon the exercise of Company Warrants outstanding on the date hereof, and/or (C) capital stock issued pursuant to a Permitted Financing, or (ii) sell, pledge, dispose of, transfer, lease, license, guarantee or encumber, or authorize the sale, pledge, disposition, transfer, lease, license, guarantee or encumbrance of, any material property or assets of the Company, except pursuant to a Permitted Financing and/or existing contracts or written commitments or the sale or purchase of goods or other property or assets in the ordinary course of business;

(c) declare, set aside, make or pay any dividend or other distribution (whether payable in cash, stock, property or a combination thereof) with respect to any of its capital stock or enter into any agreement with respect to the voting of its capital stock, except in connection with a Permitted Financing;

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(d) other than exercise of Company Options or warrants to purchase Company Common Stock, reclassify, combine, split, subdivide or redeem, purchase or otherwise acquire, directly or indirectly, any of its capital stock, other Equity Interests or other securities, except in connection with a Permitted Financing;

(e) acquire (including by merger, consolidation, or acquisition of stock or assets) any Equity Interest in or all or substantially all of the assets of any other person, other than acquisitions of assets in the ordinary course of business;

(f) incur any indebtedness for borrowed money or issue any debt securities or assume, guarantee or endorse, or otherwise as an accommodation become responsible for, the obligations of any person for borrowed money, in each case, other than the Promissory Note, the indebtedness and promissory notes disclosed in the Company SEC Filings prior to the date hereof, and any Permitted Financing.

(g) except as may be required by applicable Law or any Company Benefit Plan, contractual commitments or corporate policies in existence on the date of this Agreement: (i) materially increase the compensation or benefits payable or to become payable to its directors, officers, employees or consultants; or (ii) grant any rights to severance or termination pay to, or enter into any employment or severance agreement with, any director, officer, employee or consultant of the Company, or establish, adopt, enter into or amend any collective bargaining, bonus, profit sharing, thrift, compensation, stock option, restricted stock, pension, retirement, deferred compensation, employment, termination, severance or other plan, agreement, trust, fund, policy or arrangement for the benefit of any director, officer, employee, consultant or other service provider, except to the extent required by applicable Law;

(h) except in connection with a Permitted Financing and/or in the ordinary course of business, terminate, cancel or request any material change in, or agree to any material change in, any Company Material Contract;

(i) waive, release, assign, settle or compromise any material claims, litigation or arbitration except (i) in the ordinary course of business or (ii) for amounts, individually or in the aggregate, not to exceed $50,000 (in excess of third party insurance);

(j) make any material Tax election or settle or compromise any material liability for Taxes;

(k) make any material change in accounting policies or procedures, other than in the ordinary course of business consistent with past practice or except as required by GAAP or by a Governmental Entity;

(l) take any action that would prevent the Merger from qualifying as a reorganization within the meaning of Section 368(a) of the Code;

(m) take, or agree to take, any action that would be reasonably likely to delay the effectiveness of the Registration Statement, including, without limitation, any business combination that would result in a requirement to include financial statements for the acquired entity or assets in the Registration Statement, except in connection with a Permitted Financing;

(n) take any action or conduct its business in a manner such that as of the Closing Date the amount derived by subtracting the total current liabilities of the Company and the Company Subsidiaries on a consolidated basis from the total current assets of the Company and the Company Subsidiaries on a consolidated basis will be less than $500,000, determined in accordance with GAAP and consistent with the historical audited financial statements of the Company included in the SEC Filings; or

(o) authorize or enter into any agreement or otherwise make any commitment to do any of the foregoing.

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Section 5.2 Conduct of Business by Parent Pending the Closing. Parent agrees that, between the date of this Agreement and the Effective Time, except as set forth in Section 5.2 of the Parent Disclosure Schedule, as specifically contemplated by any other provision of this Agreement or as required by applicable Law or the regulations or requirements of the Exchange, unless the Company shall otherwise consent in writing (which consent shall not be unreasonably withheld, conditioned or delayed), Parent will, and will cause each Parent Subsidiary to, (A) use its commercially reasonable efforts to preserve substantially intact its business organization and goodwill, and (B) conduct its operations in the ordinary and usual course of business substantially consistent with past practice. During the period from the date of this Agreement to the Effective Time, Merger Sub shall not engage in any activities of any nature except as provided in or contemplated by this Agreement. Without limiting the foregoing, and as an extension thereof, except as set forth in Section 5.2 of the Parent Disclosure Schedule, as specifically contemplated by any other provision of this Agreement, or as required by applicable Law or the regulations or requirements of the Exchange, Parent shall not, and shall not permit any Parent Subsidiary to, between the date of this Agreement and the Effective, directly or indirectly, do any of the following without the prior written consent of the Company (which consent shall not be unreasonably withheld, conditioned or delayed):

(a) amend or otherwise change its articles of incorporation or bylaws or equivalent Organizational Documents;

(b) take any action that would prevent the Merger from qualifying as a reorganization within the meaning of Section 368(a) of the Code;

(c) take any action that would be reasonably likely to delay the effectiveness of the Registration Statement; or

(d) authorize or enter into any agreement or otherwise make any commitment to do any of the foregoing.

Section 5.3 Cooperation. The Company and Parent shall coordinate and cooperate in connection with (a) the preparation of the Registration Statement, the Proxy Statement and any Other Filings, (b) determining whether any action by or in respect of, or filing with, any Governmental Entity is required, or any actions, consents, approvals or waivers are required to be obtained from parties to any Company Material Contracts, in connection with the consummation of the Merger, and (c) seeking to obtain any such actions, consents, approvals or waivers or making any such filings, furnishing information required in connection therewith or with the Registration Statement, the Proxy Statement or any Other Filings and timely seeking to obtain any such actions, consents, approvals or waivers; *provided*, *however*, that except as expressly provided in Article VI, no such actions, consents, approvals, waivers or filings shall constitute conditions to Closing. Without limiting the foregoing, the parties shall (i) take all action necessary to ensure that no Takeover Statute or similar Law is or becomes applicable to the Merger, this Agreement or any of the other Transactions and (ii) if any Takeover Statute or similar Law becomes applicable to the Merger, this Agreement or any of the other Transactions, take all action reasonably necessary to ensure that the Merger and the other Transactions may be lawfully consummated as promptly as practicable on the terms contemplated by this Agreement and otherwise to minimize the effect of such Law on the Merger and the other Transactions.

Section 5.4 Registration Statement; Proxy Statement.

(a) As promptly as reasonably practicable after the execution of this Agreement, and in any event within 21 calendar days of the date of this Agreement (or such later date as Parent and the Company may agree in writing), the Company shall prepare and file with the SEC a proxy statement relating to the Company Stockholders Meeting (together with any amendments thereof or supplements thereto, the Proxy Statement) and Parent shall prepare and file with the SEC a registration statement on Form S-4 (together with all amendments thereto, the Registration Statement) in which the Proxy Statement shall be included as a prospectus, in connection with the registration under the Securities Act of the shares of Parent Common Stock to

be issued to the stockholders of the Company pursuant to the Merger. In addition, each of the Company and Parent shall prepare and file with the SEC any Other Filings as and when required or requested by the SEC. Each of the Company and Parent will use all reasonable best efforts to respond to any comments made by the SEC with respect to the Proxy Statement, the Registration Statement and any Other Filings, and to cause the Registration Statement to become effective as promptly as practicable. Prior to the effective date of the Registration Statement, Parent shall take all or any action required under any applicable federal or state securities Laws in connection with the issuance of shares of Parent Common Stock in the Merger. Each of the Company and Parent shall furnish all information concerning it and the holders of its capital stock as the other party may reasonably request in connection with such actions and the preparation of the Proxy Statement, the Registration Statement and any Other Filings. Subject to Section 5.5 and Section 5.7, as promptly as reasonably practicable after the Registration Statement shall have become effective, the Company shall mail the Proxy Statement to its stockholders; *provided*, that the Company shall be under no obligation to mail the Proxy Statement to its stockholders prior to the No-Shop Period Start Date. Subject to Section 5.7, the Proxy Statement shall include the recommendation of the Company Board that adoption of this Agreement by the Company s stockholders is advisable and that the Company Board has determined that the Merger is fair to and in the best interests of the Company s stockholders (the Company Recommendation).

(b) Subject to Section 5.7 and other than pursuant to Rule 425 of the Securities Act with respect to releases made in compliance with Section 5.10 of this Agreement, no amendment or supplement to the Proxy Statement, the Registration Statement or any Other Filings, nor any response to any comments or inquiry from the SEC with respect to such filings, will be made by the Company or Parent without providing the other party the opportunity to review and comment upon such amendment, supplement or response, giving due consideration to all reasonable additions, deletions or changes suggested in connection therewith. The Company and Parent each will advise the other promptly after it receives notice of the time when the Registration Statement has become effective or any supplement or amendment has been filed, of the issuance of any stop order, the suspension of the qualification of the Parent Common Stock issuable in connection with the Merger for offering or sale in any jurisdiction, or any request by the SEC for amendment of the Proxy Statement, the Registration Statement or any Other Filings or comments thereon and responses thereto or requests by the SEC for additional information.

(c) Parent shall promptly inform the Company if, at any time prior to the Effective Time, any event or circumstance relating to Parent, any Parent Subsidiary or Merger Sub, or any of their respective officers or directors, should be discovered by Parent which should be set forth in an amendment or a supplement to the Proxy Statement, the Registration Statement or any Other Filing. The Company shall promptly inform Parent if, at any time prior to the Effective Time, any event or circumstance relating to the Company, or any of its officers or directors, should be discovered by the Company which should be set forth in an amendment or a supplement to the Proxy Statement, the Registration Statement or any Other Filing.

Section 5.5 Company Stockholders Meeting. Subject to Section 5.7, the Company shall call and hold a meeting of the holders of Company Common Stock (including any postponements or adjournments thereof, the Company Stockholders Meeting) as promptly as reasonably practicable after the effective date of the Registration Statement for the purpose of obtaining the Company Stockholder Approval. Notwithstanding the foregoing, at any time prior to the Company Stockholders Meeting and subject to compliance with Section 5.7, the Company may adjourn or postpone such Company Stockholders Meeting (i) if this Agreement is terminated or (ii) to the extent necessary to respond to an Acquisition Proposal pursuant to and in accordance with Section 5.7.

Section 5.6 Access to Information; Confidentiality.

(a) Except as required pursuant to any confidentiality agreement or similar agreement or arrangement to which the Company is a party or as would violate the attorney-client privilege, and subject to applicable Law, from the date of

this Agreement to the Effective Time, the Company shall, and shall cause each of its directors, officers, employees, accountants, consultants, legal counsel, advisors, and agents and other representatives

(collectively, Company Representatives) to: (i) provide to Parent and Merger Sub and their respective officers, directors, employees, accountants, consultants, legal counsel, advisors, agents and other representatives (collectively, Parent Representatives), upon reasonable prior notice to the Company, reasonable access during normal business hours to the properties, offices and other facilities of the Company and to the books and records thereof and (ii) furnish promptly such information concerning the business, properties, contracts, assets, liabilities, personnel and other aspects of the Company as Parent or the Parent Representatives may reasonably request; *provided*, *however*, that any such access shall be conducted at a reasonable time, upon reasonable prior notice to the Company and in such a manner as not to interfere unreasonably with the operation of any business conducted by the Company.

(b) With respect to the information disclosed pursuant to Section 5.6(a), Parent and Merger Sub shall comply with, and shall cause the Parent Representatives to comply with, all of Parent s obligations under the Confidentiality Agreement previously executed by the Company and Parent (the Confidentiality Agreement).

Section 5.7 Go-Shop Period; Acquisition Proposals.

(a) Notwithstanding any other provision of this Agreement to the contrary, during the period beginning on the date of this Agreement and continuing until 11:59 p.m., California time, on the date which is 21 days after the date hereof, the Company and the Company Subsidiaries and their respective Representatives shall have the right to, directly or indirectly: (i) solicit, initiate, facilitate or encourage, whether publicly or otherwise, the submission of any Acquisition Proposal (or inquiries, proposals or offers or other efforts or attempts that may reasonably be expected to lead to an Acquisition Proposal), including by way of providing access to non-public information pursuant to one or more Acceptable Confidentiality Agreements; *provided*, that the Company shall promptly (and in any event within two Business Days) provide to Parent any material non-public information concerning the Company that is provided to any person given such access which was not previously provided to Parent or its Representatives; and (ii) enter into, engage in, and maintain discussions or negotiations with respect to Acquisition Proposals (or inquiries, proposals or offers or other efforts that may reasonably be expected to lead to an Acquisition Proposal) or otherwise cooperate with or assist or participate in, or facilitate any such inquiries, proposals, offers, efforts, discussions or negotiations, including through the waiver or release by the Company at its sole discretion, of any pre-existing standstill or similar provision with any persons to the extent necessary to permit such person to make or amend an Acquisition Proposal or otherwise engage with the Company in discussions regarding an Acquisition Proposal or a proposal that could reasonably be expected to lead to an Acquisition Proposal.

(b) No Solicitation or Negotiation. Except as expressly permitted by this Section 5.7 (including Section 5.7(c)) and except as may relate to any Excluded Party, the Company shall and shall cause the Company Subsidiaries and their respective Representatives to (i) from 12:00 a.m., California time, on the date which is 22 days after the date hereof, 2014 (the No-Shop Period Start Date), immediately cease and terminate any solicitation, encouragement (including by way of providing access to non-public information or the business, properties, assets or personnel of the Company or any of the Company Subsidiaries to any person and its Representatives, its affiliates and its prospective equity and debt financing sources, except in connection with a Permitted Financing), discussions or negotiations with any persons that may be ongoing with respect to any Acquisition Proposal, and as promptly as practicable thereafter deliver a written notice to each such person to the effect that the Company is ending all discussions and negotiations with such person with respect to any Acquisition Proposal, effective immediately, which notice shall also request such person to return or destroy promptly all confidential information concerning the Company and the Company Subsidiaries, and the Company shall take all reasonably necessary actions to secure its rights and ensure the performance of any such person s obligations under any applicable confidentiality agreement (including enforcement of any applicable standstill provision), and (ii) from the No-Shop Period Start Date until the earlier of the Effective Time or the termination of this Agreement in accordance with Article VII, not, directly or indirectly (A) initiate, solicit or knowingly facilitate or encourage (publicly or otherwise) (including by way of providing access to non-public information or the business,

properties, assets or personnel of the Company or any of the Company Subsidiaries to any person

and its Representatives and its affiliates) any inquiries regarding, or the making, submission or announcement of any proposal or offer that constitutes, or would reasonably be expected to lead to, an Acquisition Proposal, (B) engage in, continue or otherwise participate in any discussions or negotiations with respect to, or provide any non-public information or data concerning, the Company or the Company Subsidiaries to any person relating to, or for the purpose of encouraging or facilitating, any Acquisition Proposal or otherwise cooperate with or assist or participate in, or facilitate such discussions or negotiations, or (C) otherwise knowingly facilitate any such inquiries, proposals, discussion or negotiations or any effort or attempt by any person to make an Acquisition Proposal. Notwithstanding the commencement of the obligations of the Company under this Section 5.7(b) on the No-Shop Period Start Date, the parties agree that the Company may continue to engage in the activities described in clause (i) and/or (ii) of Section 5.7(a) with respect to each Excluded Party on and after the No-Shop Period Start Date until the earlier of the time (A) the Company Stockholder Approval is obtained and (B) it ceases to be an Excluded Party, including with respect to any amended or revised Acquisition Proposal submitted by such Excluded Party on or after the No-Shop Period Start Date. A breach by any Company Subsidiary or Representative of the Company or any of the Company Subsidiaries of this Section 5.7 shall constitute a breach by the Company of this Section 5.7. Within two Business Days following the No-Shop Period Start Date, the Company will notify Parent of the number and identity of Excluded Parties.

(c) Certain Permitted Conduct Following the No-Shop Period Start Date. Notwithstanding anything in this Agreement to the contrary but subject to the last sentence of this Section 5.7(c), at any time on or after the No-Shop Period Start Date and prior to the time the Company Stockholder Approval is obtained, if the Company receives an Acquisition Proposal from any person or Group, which Acquisition Proposal was made by an Excluded Party or which Acquisition Proposal was made or renewed on or after the No-Shop Period Start Date and did not result from a material breach of this Section 5.7:

(i) the Company and its Representatives may contact such person or Group to clarify the terms and conditions thereof;

(ii) if the Company Board or any duly constituted and authorized committee thereof determines in good faith (after consultation with its financial advisor and based on the advice of its outside legal counsel) that such Acquisition Proposal either constitutes a Superior Proposal or could reasonably be expected to result in a Superior Proposal, then the Company and its Representatives may (x) provide, pursuant to an Acceptable Confidentiality Agreement, non-public information and data concerning the Company and the Company Subsidiaries to such person or Group, their Representatives and their prospective equity and debt financing sources; *provided* that the Company shall promptly (and in any event within two Business Days) make available to Parent (through an electronic data site or otherwise), any material non-public information concerning the Company or the Company Subsidiaries that the Company made available to any such person or Group, their Representatives and their prospective equity and debt financing sources if such information was not previously made available to Parent or its Representatives, and (y) engage in or otherwise participate in any discussions or negotiations with the person or Group making such Acquisition Proposal.

Following the No-Shop Period Start Date and until the Effective Time or, if earlier, the termination of this Agreement, the Company shall keep Parent and its Representatives reasonably informed of any material developments, discussions or negotiations regarding any Acquisition Proposal (whether made before or after the No-Shop Period Start Date) on a prompt basis (and in any event within two Business Days), including the identity of the person or Group making such Acquisition Proposal and the material terms of any such Acquisition Proposal, and the Company agrees that it and the Company Subsidiaries will not enter into any confidentiality agreement with any person subsequent to the date hereof which prohibits the Company from providing any information to Parent in accordance with this Section 5.7.

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(d) No Change in Recommendation or Alternative Acquisition Agreement. Except as set forth in this Section 5.7(d), the Company Board shall not:

(i) (A) change, withhold, withdraw, qualify or modify (or publicly propose to change, withhold, withdraw, qualify or modify), in a manner adverse to Parent, the Company Recommendation, (B) fail to include the Company Recommendation in the Proxy Statement, (C) adopt, approve, authorize, declare advisable or recommend to stockholders of the Company (whether publicly or otherwise) any Acquisition Proposal, or (D) take formal action, or make any recommendation or public statement in connection with (other than a recommendation against such offer or a customary stop, look and listen communication), any Acquisition Proposal subject to Regulation 14D under the Exchange Act in any solicitation or recommendation statement made on Schedule 14D-9 relating thereto within ten Business Days after the commencement of such Acquisition Proposal (any such action described in this clause (i), a Company Change in Recommendation); or

(ii) approve or recommend, or publicly propose to approve or recommend, or cause or permit the Company or any of the Company Subsidiaries to enter into, any letter of intent, memorandum of understanding, acquisition agreement, merger agreement or similar definitive agreement relating to any Acquisition Proposal (other than an Acceptable Confidentiality Agreement) (each, an Alternative Acquisition Agreement).

Notwithstanding anything to the contrary set forth in this Agreement, at any time prior to obtaining the Company Stockholder Approval, but not after, so long as none of the Company, the Company Subsidiaries or their Representatives have breached in any material respect this Section 5.7, the Company Board may effect a Company Change in Recommendation with respect to an Alternative Acquisition Proposal, or terminate this Agreement under Section 7.1(g) and enter into an Alternative Acquisition Proposal, if the Company Board or any duly constituted and authorized committee thereof has determined in good faith (after consultation with its financial advisor and based on the advice of its outside legal counsel) that (x) the failure to take such action would be inconsistent with the Company Board s fiduciary duties under applicable Law, and (y) such Acquisition Proposal constitutes a Superior Proposal (after giving effect to all of the binding written adjustments, if any, offered by Parent pursuant to Section 5.7(e), or otherwise).

(e) Certain Permitted Disclosure. Nothing contained in this Agreement shall prohibit the Company or the Company Board from (i) complying with its disclosure obligations under United States federal or state Law with regard to an Acquisition Proposal, including taking and disclosing to its stockholders a position contemplated by Rule 14d-9 and Rule 14e-2(a) promulgated under the Exchange Act (or any similar communication to stockholders) or (ii) making any stop-look-and-listen communication to the stockholders of the Company pursuant to Rule 14d-9(f) promulgated under the Exchange Act (or any similar communications to the stockholders of the Company); *provided* that this Section 5.7(e) shall not permit the Company Board to make a Company Change in Recommendation or to take any other actions contemplated by this Section 5.7, except, in each case, to the extent expressly permitted by, and subject to the terms and conditions of, this Section 5.7.

(f) Notice. The Company shall not be entitled to effect a Company Change in Recommendation pursuant to Section 5.7(d) with respect to a Superior Proposal or to terminate this Agreement under Section 7.1(g) unless (i) the Company has provided a written notice to Parent at least three calendar days in advance (the Notice Period), which notice (a Change Notice) shall specify that the Company intends to take such action and include a copy of the Superior Proposal, a copy of the then current form of acquisition agreement, and a copy of any commitment letters or similar material documents with respect to any financing for such Superior Proposal); (ii) if requested by Parent, the Company shall, and shall cause its financial advisor and outside legal counsel to, during the Notice Period, negotiate with Parent and its Representatives in good faith to make amendments to the terms and conditions of this Agreement; (iii) following the end of the Notice Period, the Company Board or any duly constituted and authorized committee

thereof shall have determined in good faith after consultation with its financial advisor and outside legal counsel, taking into account any written and complete amendments to the terms and conditions of this Agreement proposed by Parent that, if accepted by the Company, would be binding upon Parent in response to the Change Notice or otherwise, that the Superior

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Proposal giving rise to the Change Notice continues to constitute a Superior Proposal; and (iv) in the event of any material revisions to such Superior Proposal, the Company shall, in each case, be required to deliver a new written notice to Parent consistent with that described in clause (i) above and the notice period shall have recommenced with respect to such new written notice, except that the deadline for such new written notice shall be reduced to one Business Day (rather than the three calendar days otherwise contemplated by clause (i) above).

Section 5.8 Appropriate Action; Consents; Filings.

(a) Each of the Company and Parent shall use their commercially reasonable efforts to (i) take, or cause to be taken, all appropriate action, and do, or cause to be done, all things necessary, proper or advisable under any applicable Law or otherwise to consummate and make effective the Merger and the Transactions as promptly as practicable, (ii) obtain any consents, licenses, permits, waivers, approvals, authorizations or orders from any third party, including any Governmental Entity required to be obtained or made by Parent or the Company or any of Parent s Subsidiaries, or to avoid any action or proceeding by any Governmental Entity, in connection with the authorization, execution and delivery of this Agreement and the consummation of the Merger and the Transactions, (iii) prepare and make or cause to be made the applications or filings required to be made by Parent or the Company or any of Parent s Subsidiaries under any Laws in connection with the authorization, execution and delivery of this Agreement and the consummation of the Merger and the Transactions (including, without limitation, under the Exchange Act, and any other applicable federal or state securities Laws), and to pay any fees due of it in connection with such applications or filings, as promptly as is reasonably practicable, and in any event within ten Business Days after the date hereof, (iv) comply at the earliest practicable date with any request under any applicable Laws for additional information, documents or other materials received by Parent or the Company or any of Parent s Subsidiaries from any Governmental Entity in connection with such applications or filings or the Merger and the Transactions and (v) coordinate and cooperate with, and give due consideration to all reasonable additions, deletions or changes suggested in connection with, making (A) any filing under any applicable Laws, and (B) any filings, conferences or other submissions related to resolving any investigation or other inquiry by any such Governmental Entity. Each of the Company and Parent shall, and shall cause their respective affiliates to, furnish to the other party all information necessary for any such application or other filing to be made in connection with the Merger or the Transactions. Each of the Company and Parent shall promptly inform the other of any communication with, and any proposed understanding, undertaking or agreement with, any Governmental Entity regarding any such application or filing. If a party hereto intends to independently participate in any meeting with any Governmental Entity in respect of any such filings, investigation or other inquiry, then such party shall give the other party reasonable prior notice of such meeting. The parties shall coordinate and cooperate with one another in connection with any analyses, appearances, presentations, memoranda, briefs, arguments, opinions and proposals made or submitted by or on behalf of any party in connection with all meetings, actions and proceedings under or relating to any such application or filing.

(b) The Company and Parent shall give (or Parent shall cause Parent s Subsidiaries to give) any notices to third parties, and use, and Parent shall cause Parent s Subsidiaries to use, commercially reasonable efforts to obtain any third party consents necessary, proper or advisable to consummate the Transactions; *provided*, *however*, that except as expressly provided in Article VI, no such consents shall constitute conditions to the Closing.

(c) From the date of this Agreement until the Effective Time, each of Parent and the Company shall promptly notify the other in writing of any pending or, to the knowledge of Parent or the Company (as the case may be), threatened action, suit, arbitration or other proceeding or investigation by any Governmental Entity or any other person (i) challenging or seeking material damages in connection with the Merger or the Transactions or (ii) seeking to restrain or prohibit the consummation of the Merger or otherwise limit in any material respect the right of Parent or any Parent Subsidiary to own or operate all or any portion of the businesses or assets of the Company.

(d) Each of the Company and Parent shall, and shall cause their respective controlled affiliates to, use their commercially reasonable efforts to resolve such objections, if any, as may be asserted by any Governmental

Entity with respect to the Merger or the Transactions. In connection therewith, if any administrative or judicial action or proceeding is instituted (or threatened to be instituted) challenging the Transactions as violative of any Law, each of the Company and Parent shall, and shall cause their respective affiliates to, cooperate and use their commercially reasonable efforts to contest and resist, except insofar as the Company and Parent may otherwise agree, any such action or proceeding, including any action or proceeding that seeks a temporary restraining order or preliminary injunction that would prohibit, prevent or restrict consummation of the Merger or the Transactions. In furtherance and not in limitation of the foregoing, Parent shall cooperate in good faith with all Governmental Entities and undertake promptly any and all actions required to lawfully complete the Transactions; *provided* that notwithstanding the foregoing, neither the Company nor Parent shall be required to take any action which is not conditioned on the consummation of the Merger.

(e) Nothing contained in this Agreement shall give Parent or Merger Sub, directly or indirectly, the right to control or direct the operations of the Company prior to the consummation of the Merger. Prior to the consummation of the Merger, the Company shall exercise, consistent with the terms and conditions of this Agreement, complete control and supervision over its business operations.

(f) Nothing contained in this Agreement shall give the Company, directly or indirectly, the right to control or direct the operations of Parent or Merger Sub. Parent and Merger Sub shall exercise, consistent with the terms and conditions of this Agreement, complete control and supervision over their business operations.

Section 5.9 Certain Notices. From and after the date of this Agreement until the Effective Time, each party hereto shall promptly notify the other party hereto of (a) the occurrence, or non-occurrence, of any event that would be reasonably likely to cause any condition to the obligations of any party to effect the Merger and the Transactions not to be satisfied or (b) the failure of the Company, Parent or Merger Sub or any of their respective Representatives, as the case may be, to comply with or satisfy any covenant or agreement to be complied with by it pursuant to this Agreement which would reasonably be expected to result in any condition to the obligations of any party to effect the Merger and the Transactions not to be satisfied; *provided*, *however*, that any party may elect at any time to notify the other party of any development causing a breach of such party s representations and warranties in Article III and Article IV. Unless a non-breaching party has the right to terminate this Agreement at the time of such notification pursuant to Article VII by reason of such development and exercises that right within the period of ten Business Days after receipt of such notice, the written notice pursuant to this Section 5.9 shall be deemed to have amended the Company Disclosure Schedule or the Parent Disclosure Schedule, as applicable, to have qualified the representations and warranties contained in Article III and Article IV, as applicable, and to have cured any misrepresentation or breach of warranty that otherwise might have existed hereunder by reason of such development.

Section 5.10 Public Announcements. Parent and the Company shall coordinate and consult with each other before issuing, and give each other the opportunity to review and comment upon, giving due consideration to all reasonable additions, deletions or changes suggested in connection therewith, any press release or other public statements with respect to the Transactions, including the Merger. Except in connection with a Company Change in Recommendation in accordance with Section 5.7 hereof, none of Parent, the Company nor their respective affiliates shall issue any such press release or make any such public statement prior to such consultation, except as may be required by applicable Law, court process or any listing agreement, or as may be requested by a Governmental Entity; *provided* that Parent and the Company shall coordinate and consult with respect to the timing, basis and scope of such disclosure requirement.

Section 5.11 Stock Exchange Listing. Parent shall promptly prepare and submit to the Exchange, and any other applicable exchange, a listing application covering the shares of Parent Common Stock to be issued in the Merger and shall use its commercially reasonable efforts to cause such shares to be approved for listing on such Exchange, subject

to official notice of issuance, prior to the Closing Date.

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Section 5.12 Indemnification of Directors and Officers.

(a) Parent agrees to, and to cause the Surviving Corporation to, indemnify and hold harmless all past and present directors, officers, employees and agents (in each case, when acting in such capacity) of the Company (Covered Persons) to the same extent such persons would be entitled to be indemnified as of the date of this Agreement by the Company pursuant to the Company Governing Documents and indemnification agreements, if any, in existence on the date of this Agreement with any Covered Persons for acts or omissions occurring at or prior to the Effective Time. Each Covered Person shall be entitled to advancement of expenses incurred in the defense of any claim, action, suit, proceeding or investigation with respect to any matters subject to indemnification hereunder to the same extent such persons are entitled thereto as of the date of this Agreement, *provided* that any person to whom expenses are advanced undertakes, to the extent required by the NRS, to repay such advanced expenses if it is ultimately determined that such person is not entitled to indemnification.

(b) The articles of incorporation and bylaws of the Surviving Corporation shall contain provisions no less favorable with respect to indemnification, advancement of expenses and exculpation of Covered Persons than are currently set forth in the Company Governing Documents. Any indemnification agreements with Covered Persons in existence on the date of this Agreement shall be assumed by the Surviving Corporation in the Merger, without any further action, and shall survive the Merger and continue in full force and effect in accordance with their terms.

(c) For a period of six years from the Effective Time, Parent shall, at Parent s sole cost and expense, provide to the Company s current and former directors and officers an insurance and indemnification policy that provides coverage for events occurring on or before the Effective Time (D&O Insurance) that is no less favorable than the Company s existing policy in effect on the date hereof and is from an insurance carrier with the same or better credit rating as the Company s existing insurance carrier or, if substantially equivalent insurance coverage is unavailable, the best available coverage. The provisions of the immediately preceding sentences shall be deemed to have been satisfied if Parent or the Company obtained, at or prior to the Effective Time, prepaid (or tail) D&O Insurance covering such officers and directors, including in connection with the approval of this Agreement and the Transactions, with coverage no less favorable than those of the Company s policies in effect on the date of this Agreement for an aggregate period of at least six years with respect to claims arising from facts or events that occurred on or before the Effective Time. If the Company obtained tail D&O Insurance prior to the Effective Time, Parent shall, and shall cause the Surviving Corporation to, maintain such tail D&O Insurance in full force and effect for six years after the Effective Time, and continue to honor the obligations thereunder.

(d) In the event Parent or the Surviving Corporation (i) consolidates with or merges into any other person and shall not be the continuing or surviving corporation or entity of such consolidation or merger or (ii) transfers all or substantially all of its properties and assets to any person, then, and in each such case, proper provision shall be made so that such continuing or surviving corporation or entity or transferee of such assets, as the case may be, shall assume the obligations set forth in this Section 5.12.

(e) The obligations under this Section 5.12 shall not be terminated or modified in such a manner as to affect adversely any Covered Person to whom this Section 5.12 applies without the consent of such affected Covered Person (it being expressly agreed that the Covered Persons to whom this Section 5.12 applies and their respective heirs, successors and assigns shall be express third-party beneficiaries of this Section 5.12). The provisions of this Section 5.12 shall survive the consummation of the Merger.

Section 5.13 Employee Benefit Matters. Effective as of the Closing, (i) each of Alan J. Lewis, Ph.D., Thomas E. Ichim, Ph.D., John P. Salvador, J.D. and Donald F. Dickerson (collectively, the Transitioning Employees),other than Thomas E. Ichim, Ph.D., shall be offered to continue employment with the Company or Parent on the terms and

conditions, and with the compensation and benefits, specified in offer letters in the form to be provided by Parent and (ii) the Company shall terminate each of the employment agreements to which the Transitioning Employees are a party (but, for the avoidance of doubt, not their employment) as well as its 2005 Officer and Director Equity Ownership Plan.

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Section 5.14 Certain Tax Matters.

(a) The parties to this Agreement adopt this Agreement as a plan of reorganization within the meaning of Treasury Regulation Sections 1.368-2(g). Each party shall use its reasonable best efforts to cause the Merger to qualify as a reorganization within the meaning of Section 368(a) of the Code, and each party shall use its reasonable best efforts not to, and shall use its reasonable best efforts not to permit any of its affiliates to, take any actions that would prevent the Merger from so qualifying.

(b) The parties shall cooperate and use their reasonable best efforts in order for the Company and Parent to obtain the tax opinions of each of Troutman Sanders LLP and EisnerAmper, LLP (i) to be attached as exhibits to the Proxy Statement and/or Registration Statement (the SEC Tax Opinions) to satisfy the requirements of Item 601 of Regulation S-K under the Securities Act and (ii) referenced in Section 6.2(d) and Section 6.3(c) hereof (the Closing Tax Opinions). Parent, the Company and Merger Sub shall execute and deliver to Troutman Sanders LLP and EisnerAmper, LLP, (A) prior to the filing of the Proxy Statement and Registration Statement, tax representation letters in the form to be mutually agreed by Parent and the Company after the date hereof acting reasonably (the Registration Statement Tax Representation Letters), dated as of the date of the SEC Tax Opinions; and (B) prior to the Effective Time, tax representation letters in the form to be mutually agreed by Parent and the Company after the date hereof acting reasonably (the Closing Tax Representation Letters, and together with the Registration Statement Tax Representation Letters, the Tax Representation Letters) dated as of the date of the Closing Tax Opinions. In rendering both the SEC Tax Opinions and the Closing Tax Opinions, each of Troutman Sanders LLP and EisnerAmper, LLP shall be entitled to rely on customary assumptions, representations, warranties and covenants reasonably satisfactory to such counsel, including those set forth in the Tax Representation Letters. Each of Parent, Merger Sub and the Company shall use its commercially reasonable efforts not to take or cause to be taken any action that would cause to be untrue (or fail to take or cause not to be taken any action which would cause to be untrue) any of the certifications and representations included in the Tax Representation Letters.

(c) Unless otherwise required pursuant to a determination within the meaning of Section 1313(a) of the Code, each party will report the Merger as a reorganization within the meaning of Section 368(a) of the Code, including attaching the statement described in Treasury Regulation Section 1.368-3(a) on or with its return for the taxable year of the Merger.

Section 5.15 Stockholder Litigation. The parties shall use commercially reasonable efforts to cooperate and consult with one another in connection with any stockholder litigation against any of them or any of their respective directors or officers with respect to the Transactions. In furtherance of and without in any way limiting the foregoing, each of the parties shall use its respective commercially reasonable efforts to prevail in such litigation so as to permit the consummation of the Transactions in the manner contemplated by this Agreement, as promptly as reasonably practicable. Notwithstanding anything to the contrary herein, the parties may take any actions set forth on Schedule 5.15.

Section 5.16 Obligations of Merger Sub. Parent shall take all action necessary to cause Merger Sub and, after the Effective Time, the Surviving Corporation to perform their respective obligations under this Agreement and to consummate the Transactions upon the terms and subject to the conditions set forth in this Agreement.

ARTICLE VI

CLOSING CONDITIONS

Section 6.1 Conditions to Obligations of Each Party to Effect the Merger. The respective obligations of each party to effect the Merger shall be subject to the satisfaction at or prior to the Effective Time of each of the

following conditions, any or all of which may be waived by the Company and Parent, in whole or in part, to the extent permitted by applicable Law:

(a) Effectiveness of the Registration Statement. The Registration Statement shall have been declared effective by the SEC under the Securities Act. No stop order suspending the effectiveness of the Registration Statement shall have been issued by the SEC and no proceedings for that purpose shall have been initiated or threatened in writing by the SEC and not have been withdrawn.

(b) Stockholder Approval. The Company Stockholder Approval shall have been obtained.

(c) No Injunctions or Restraints. No federal or state court of competent jurisdiction or other Governmental Entity shall have enacted, adopted, issued, promulgated, enforced or entered any Law, order, decree, judgment, injunction or other ruling (whether temporary, preliminary or permanent), in any case which is in effect and which prevents or prohibits consummation of the Merger; *provided*, *however*, that the condition set forth in this Section 6.1(c) shall not be available to any party whose failure to fulfill its obligations pursuant to Section 5.3 and Section 5.8 shall have been the cause of, or shall have resulted in, such Law, order, decree, judgment, injunction or other ruling.

(d) Listing. The shares of Parent Common Stock issuable to the Company s stockholders in the Merger shall have been approved for listing on the Exchange, subject to official notice of issuance.

Section 6.2 Additional Conditions to Obligations of Parent and Merger Sub. The obligations of Parent and Merger Sub to effect the Merger are also subject to the satisfaction, or waiver by Parent, at or prior to the Effective Time of the following conditions:

(a) Representations and Warranties. The representations and warranties set forth in (i) Section 3.3 shall be true and correct in all respects as of the Closing Date as though made on and as of the Closing Date except for *de minimis* inaccuracies and (ii) Sections 3.7, 3.24 and 3.25 that are not qualified by a materiality or Company Material Adverse Effect qualification shall be true and correct in all material respects as of the as of the Closing Date as though made on and as of the Closing Date and each of the representations and warranties of the Company contained in Sections 3.7, 3.24 and 3.25 that are qualified by a materiality or Company Material Adverse Effect qualification shall be true and correct in all respects as so qualified as though such representations and warranties had been made on and as of the Closing Date, and each of the other representations and warranties of the Company contained in this Agreement shall be true and correct in all respects (without giving effect to any materiality or Company Material Adverse Effect qualifications contained therein) as of the Closing Date as though made on and as of the Closing Date (except to the extent any representations and warranties address matters only as of a particular date or only with respect to a specific period of time, in which case as of such date or with respect to such period), except where the failure of such representations and warranties to be so true and correct would not reasonably be expected to have or result in, individually or in the aggregate, a Company Material Adverse Effect. Parent shall have received a certificate of the Chief Executive Officer or Chief Financial Officer of the Company to that effect.

(b) Agreements and Covenants. The Company shall have performed or complied in all material respects with all agreements and covenants required by this Agreement to be performed or complied with by it on or prior to the Effective Time; *provided*, *however*, that in the event of any failure to perform or comply with Section 5.1 (other than Sections 5.1(b), 5.1(c), 5.1(d), 5.1(e), 5.1(g), 5.1(m), 5.1(n) and, when referring to the preceding sections, Section 5.1(o)), the condition in this Section 6.2(b) shall be deemed to be satisfied so long as the failure to perform or comply with Section 5.1 (other than Sections 5.1(b), 5.1(c), 5.1(d), 5.1(e), 5.1(g), 5.1(m), 5.1(n) and, when referring to the preceding sections, Section 5.1(o)) has not, individually or in the aggregate, had a Company Material Adverse Effect. Parent shall have received a certificate of the Chief Executive Officer or Chief Financial Officer of the

Company to that effect.

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(c) Required Consents. The Company shall have obtained the Company Required Consents that are set forth on Section 6.2(c) of the Company Disclosure Schedule.

(d) Parent Closing Tax Opinion. Parent shall have received the written opinion of Troutman Sanders LLP, dated the Closing Date, to the effect that the Merger will qualify for United States federal income tax purposes as a reorganization within the meaning of Section 368(a) of the Code.

(e) Dissenters Rights. Holders of no more than 7.5% of the outstanding shares of Company Common Stock shall have validly exercised, or remained entitled to exercise, their dissenters rights under Section 92A.440 of the NRS.

(f) Promissory Note. Parent shall have received a promissory note duly executed by the Company in the form attached hereto as Schedule 6.2(f) (the Promissory Note).

(g) Diligence Review. Parent shall have completed, to Parent s satisfaction in its sole discretion, its business, financial and legal due diligence investigation of the Company; *provided* that this closing condition shall no longer be applicable and/or exercisable by Parent on and after January 16, 2014.

(h) Stock Threshold. The aggregate number of shares of Parent Common Stock issuable in the Merger shall not be equal to or greater than nineteen and nine tenths percent 19.9% of the shares of Parent Common Stock outstanding as of immediately prior to the Effective Time (such amount, the Stock Threshold).

(i) Employment of Thomas E. Ichim, Ph.D. Thomas E. Ichim, Ph.D. shall have executed and delivered an employment agreement with Parent or the Company dated as of the Closing Date and in the form to be mutually agreed by Parent and the Company after the date hereof acting reasonably (the Ichim Agreement).

(j) Information and Inventions Assignment Agreement. Each current employee, officer and consultant of the Company and of each Company Subsidiary shall have executed a proprietary information and inventions assignment agreement in the form presented by Parent.

Section 6.3 Additional Conditions to Obligations of the Company. The obligations of the Company to effect the Merger are also subject to the satisfaction, or waiver by the Company, at or prior to the Closing of the following conditions:

(a) Representations and Warranties. Each of the representations and warranties of Parent contained in this Agreement shall be true and correct in all respects (without giving effect to any materiality or Parent Material Adverse Effect qualifications contained therein) as of the Closing Date as though made on and as of the Closing Date (except to the extent any representations and warranties address matters only as of a particular date or only with respect to a specific period of time, in which case as of such date or with respect to such period), except where the failure of such representations and warranties to be so true and correct would not reasonably be expected to have or result in, individually or in the aggregate, a Parent Material Adverse Effect. The Company shall have received a certificate of the Chief Executive Officer or Chief Financial Officer of Parent to that effect.

(b) Agreements and Covenants. Parent shall have performed or complied in all material respects with all agreements and covenants required by this Agreement to be performed or complied with by it on or prior to the Effective Time; *provided*, *however*, that in the event of any failure to perform or comply with Section 5.2 (other than Section 5.2(c) and, when referring to the preceding section, Section 5.2(d)), the condition in this Section 6.3(b) shall be deemed to be satisfied so long as the failure to perform or comply with Section 5.2 (other than Section 5.2(c) and, when referring to the preceding section, Section 5.2(d)) has not, individually or in the aggregate, had a Parent Material Adverse Effect.

The Company shall have received a certificate of the Chief Executive Officer or Chief Financial Officer of Parent to that effect.

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(c) Company Closing Tax Opinion. The Company shall have received the written opinion of EisnerAmper, LLP, dated the Closing Date, to the effect that the Merger will qualify for United States federal income tax purposes as a reorganization within the meaning of Section 368(a) of the Code.

Section 6.4 Frustration of Closing Condition. None of the parties may rely on the failure of any condition set forth in Section 6.1, Section 6.2 or Section 6.3, as the case may be, to be satisfied to excuse it from its obligation to effect the Merger if such failure was caused by such party s failure to comply with its obligations to consummate the Merger and the other transactions contemplated hereby to the extent required by this Agreement.

ARTICLE VII

TERMINATION, AMENDMENT AND WAIVER

Section 7.1 Termination. This Agreement may be terminated, and the Merger contemplated hereby may be abandoned, at any time prior to the Effective Time (whether before or after receipt of the Company Stockholder Approval):

(a) By mutual written consent of Parent and the Company, by action of their respective Boards of Directors.

(b) By either the Company or Parent if the Merger shall not have been consummated prior to March 12, 2014 (the Outside Date); *provided*, *however*, that in the event the SEC elects to review the Registration Statement the Outside Date shall automatically be extended to the date that is the earlier of May 31, 2014 or 45 days after the date that Parent files its annual report on Form 10-K that includes Parent s audited financial statements for the year ended December 31, 2013; and *provided further*, that the right to terminate this Agreement under this Section 7.1(b) shall not be available to any party whose failure to fulfill any obligation under this Agreement has been the primary cause of, or primarily resulted in, the failure of the Merger to occur on or before such date.

(c) By either the Company or Parent if any court or other Governmental Entity of competent jurisdiction shall have issued an order, judgment, injunction, decree or ruling or taken any other action permanently restraining, enjoining or otherwise prohibiting the Merger, and such order, decree, ruling or other action shall have become final and nonappealable; *provided*, *however*, that the right to terminate this Agreement pursuant to this Section 7.1(c) shall not be available to any party whose failure to fulfill any obligation under this Agreement has been the primary cause of, or primarily resulted in, the entry of any such order, judgment, injunction, decree, ruling or other action, including such party s obligation to use its reasonable best efforts to prevent the entry of or to resist, resolve or lift, as applicable, any such order, judgment, injunction, decree, ruling or other action to the extent required by Section 5.3 and Section 5.8.

(d) By either the Company or Parent if the Company Stockholders Meeting (including any adjournment or postponement thereof) shall have concluded without the Company Stockholder Approval having been obtained by reason of the failure to obtain the required vote of the holders of shares of Company Common Stock.

(e) By Parent if (i) the Company Board shall have effected a Company Change in Recommendation, or (ii) the Company shall have entered into an Alternative Acquisition Agreement.

(f) By Parent, if (i) any representation or warranty of the Company set forth in this Agreement shall have become untrue or the Company has breached any covenant or agreement of the Company set forth in this Agreement, (ii) such breach or misrepresentation is not cured prior to the earlier of (A) the Outside Date and (B) 30 days following written notice to the Company (*provided*, that Parent shall have given the Company written notice, delivered at least 30 days prior to such termination (or promptly, if such notice is given within 30

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days of the Outside Date)) stating Parent s intention to terminate this Agreement and the basis for such termination, and (iii) such breach or misrepresentation would cause a condition set forth in Section 6.2(a) or Section 6.2(b) not to be satisfied; *provided* that Parent will not have the right to terminate this Agreement pursuant to this Section 7.1(f) if Parent is then in breach of this Agreement such that any of the conditions set forth in Section 6.3(a) or Section 6.3(b) would not be satisfied.

(g) By the Company prior to the receipt of the Company Stockholder Approval, in order to enter into one or more Alternative Acquisition Agreements with respect to a Superior Proposal; *provided*, *however*, that the Company shall have complied with Section 5.7(c) and shall have paid or shall concurrently pay the fees due under Section 7.2(b).

(h) By the Company, if (i) any representation or warranty of Parent or Merger Sub set forth in this Agreement shall have become untrue or Parent or Merger Sub has breached any covenant or agreement of Parent or Merger Sub set forth in this Agreement, (ii) such breach or misrepresentation is not cured prior to the earlier of (A) the Outside Date and (B) 30 days following written notice to Parent (*provided*, that the Company shall have given Parent written notice, delivered at least 30 days prior to such termination (or promptly, if such notice is given within 30 days of the Outside Date)) stating the Company s intention to terminate this Agreement and the basis for such termination, and (iii) such breach or misrepresentation would cause a condition set forth in Section 6.3(a) or Section 6.3(b) not to be satisfied; *provided* that the Company will not have the right to terminate this Agreement pursuant to this Section 7.1(h) if the Company is then in breach of this Agreement such that any of the conditions set forth in Section 6.2(a) or Section 6.2(b) would not be satisfied.

(i) By the Company, if Parent has not loaned the amounts payable under the Promissory Note to the Company on or before December 20, 2013.

(j) By Parent if the results of its diligence investigation provided for in Section 6.2(g) are unsatisfactory, as determined by Parent in its sole and absolute discretion; *provided* that the foregoing termination right shall no longer be applicable and/or exercisable by Parent on and after January 16, 2014.

Section 7.2 Effect of Termination.

(a) Limitation on Liability. In the event of termination of this Agreement as provided in Section 7.1, this Agreement shall become void and of no effect and there shall be no liability or obligation on the part of any party (or any Subsidiary, stockholder, director, officer, employee or other Representative of any party) to the other party hereto; *provided*, *however*, that (i) Section 5.6(b), Section 5.10, this Section 7.2 and Article VIII and the provisions of the Confidentiality Agreement shall survive such termination, and (ii) no party will be relieved or released from liability or damages incurred or suffered as a result of (A) any knowing material breach of any of its representations and warranties set forth in this Agreement or (B) any deliberate material breach of any of its covenants contained in this Agreement (it being understood that any such liability or damages under this clause (ii) for which the Company may become liable shall be calculated net of the amount of the Termination Fee, if previously paid by the Company). No party claiming that such breach occurred will have any duty or otherwise be obligated to mitigate any such damages. For purposes of this Section 7.2(a), (x) a knowing breach of a representation and warranty will be deemed to have occurred only if the officers of the Company (in the case of the Company) or the officers of Parent or Merger Sub (in the case of Parent) had actual knowledge of such breach as of the date of this Agreement (without any independent duty of investigation or verification other than an actual reading of the representations and warranties as they appear in this Agreement by such parties) and (y) a deliberate breach of any covenant or agreement will be deemed to have occurred only if the other party took or failed to take action with actual knowledge that the action so taken or omitted to be taken constituted a breach of such covenant or agreement.

(b) Termination Fee.

(i) In the event that this Agreement is terminated by the Company pursuant to Section 7.1(g), then the Company shall pay Parent, prior to or concurrently with such termination, the Termination Fee.

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(ii) In the event that this Agreement is terminated by Parent pursuant to Section 7.1(e), then the Company shall pay Parent the Termination Fee within three Business Days of such termination.

(iii) In the event that this Agreement is terminated by the Company pursuant to Section 7.1(b) (or by Parent pursuant to Section 7.1(b) in the event the Company is prohibited from terminating this Agreement pursuant to such Section 7.1(b)) and (A) an Acquisition Proposal had been publicly announced prior to the occurrence of the events giving rise to the right to terminate pursuant to such section and which Acquisition Proposal shall not have been withdrawn and (B) within six months of such termination the Company consummates a transaction with respect to such Acquisition Proposal or the transactions contemplated by such Acquisition Proposal are consummated, then the Company shall pay Parent, concurrently with the consummation of such Acquisition Proposal, the Termination Fee.

(iv) In the event that this Agreement is terminated by either Parent or the Company pursuant to Section 7.1(d) and (A) an Acquisition Proposal had been publicly announced prior to the occurrence of the events giving rise to the right to terminate pursuant to such section and which Acquisition Proposal shall not have been withdrawn and (B) within six months of such termination the Company consummates a transaction with respect to such Acquisition Proposal or the transactions contemplated by such Acquisition Proposal are consummated, then the Company shall pay Parent, concurrently with the consummation of such Acquisition Proposal, the Termination Fee.

(v) In the event that this Agreement is terminated pursuant to Section 7.1(a), Section 7.1(b), Section 7.1(c), Section 7.1(d), Section 7.1(h), Section 7.1(i), Section 7.1(j) or otherwise by either Parent or the Company and, pursuant to the terms of this Section 7.2 no Termination Fee is payable by the Company to Parent as a result of such termination, then Parent shall pay to the Company the Reverse Termination Fee within three Business Days of such termination.

(vi) The Termination Fee shall mean a cash amount equal to $1,000,000; except that in the event this Agreement is terminated by the Company pursuant to Section 7.1(g) (A) prior to the No-Shop Period Start Date or (B) on or after the No-Shop Period Start Date in order to enter into an Alternative Acquisition Agreement with an Excluded Party, the Termination Fee shall mean a cash amount equal to $750,000. The Reverse Termination Fee shall mean a cash amount equal to $150,000.

(vii) For purposes of this Section 7.2(b), the term Acquisition Proposal shall have the meaning assigned to such term in Section 8.4, except that the phrase 20% or more in such definition shall be deemed to be changed to 50% or more .

(c) All Payments. All payments under Section 7.2 shall be made by wire transfer of immediately available funds to an account designated by the party entitled to receive payment.

Section 7.3 Amendment. This Agreement may be amended by the parties hereto by action taken by or on behalf of their respective Boards of Directors at any time prior to the Closing Date; *provided*, *however*, that, after approval of the Merger by the stockholders of the Company, no amendment may be made that, by Law or in accordance with the rules of any relevant stock exchange, requires further approval by such stockholders. This Agreement may not be amended except by an instrument in writing signed by the parties hereto.

Section 7.4 Waiver. At any time prior to the Effective Time, Parent and Merger Sub, on the one hand, and the Company, on the other hand, may (a) extend the time for the performance of any of the obligations or other acts of the other, (b) waive any inaccuracies in the representations and warranties of the other contained herein or in any document delivered pursuant hereto, including but not limited to such waiver pursuant to the terms of Section 5.9 hereto and (c) waive compliance by the other with any of the agreements or conditions contained herein; *provided*, *however*, that after any approval of the Merger by the stockholders of the Company, there may not be any extension or

waiver of this Agreement or any portion thereof which, by Law or in accordance with the

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rules of any relevant stock exchange, requires further approval by such stockholders. Any such extension or waiver shall be valid only if set forth in an instrument in writing signed by the party or parties to be bound thereby, but such extension or waiver or failure to insist on strict compliance with an obligation, covenant, agreement or condition shall not operate as a waiver of, or estoppel with respect to, any subsequent or other failure.

ARTICLE VIII

GENERAL PROVISIONS

Section 8.1 Non-Survival of Representations and Warranties. None of the representations and warranties in this Agreement or in any schedule, instrument or other document delivered pursuant to this Agreement shall survive the Effective Time. This Section 8.1 shall not limit any covenant or agreement of the parties which by its terms contemplates performance after the Effective Time.

Section 8.2 Fees and Expenses. Subject to Section 7.2 of this Agreement or except as otherwise agreed upon by Parent and the Company, all fees, costs and expenses incurred by the parties hereto (including all legal, accounting, broker, finder or investment banker fees) shall be borne solely and entirely by the party which has incurred the same; *provided*, *however*, that each of Parent and the Company shall pay one-half of the expenses related to printing, filing and mailing the Registration Statement and the Proxy Statement and all SEC and other regulatory filing fees incurred in connection with the Proxy Statement and Registration Statement.

Section 8.3 Notices. Any notices or other communications required or permitted under, or otherwise in connection with this Agreement, shall be in writing and shall be deemed to have been duly given when delivered in person or upon electronic confirmation of receipt when transmitted by facsimile transmission or by electronic mail (but only if followed by transmittal by national overnight courier or hand for delivery on the next Business Day) or on receipt after dispatch by registered or certified mail, postage prepaid, addressed, or on the next Business Day if transmitted by national overnight courier, in each case as follows:

If to Parent or Merger Sub, addressed to it at:

Intrexon Corporation

20374 Seneca Meadows Parkway

Germantown, Maryland 20876

Tel: (301) 556-9809

Fax: (301) 556-9902

Email: DLehr@intrexon.com

Attention: Donald P. Lehr, Chief Legal Officer

with a mandated copy to:

Troutman Sanders LLP

1001 Haxall Point

Richmond, Virginia 23219

Tel: (804) 697-1225

Fax: (804) 698-5174

Email: johnowen.gwathmey@troutmansanders.com

Attention: John Owen Gwathmey

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If to the Company, addressed to it at:

Medistem Inc.

9255 Towne Centre Drive, Suite 450

San Diego, CA 92121

Tel: (858) 352-7071

Fax: (858) 551-4342

Email: Alan.lewis@medisteminc.com

Attention: Alan J. Lewis, Ph.D., Chief Executive Officer

with a mandated copy to:

Jones Day

12265 El Camino Real, Suite 300

San Diego, CA 92130-4096

Tel: (858) 314-1193

Fax: (858) 314-1150

Email: klfunahashi@JonesDay.com

Attention: Kenji L. Funahashi

Section 8.4 Certain Definitions. For purposes of this Agreement, the term:

Acceptable Confidentiality Agreement means a confidentiality agreement that contains confidentiality undertakings no less favorable to the Company than those contained in the Confidentiality Agreement.

Acquisition Proposal means any offer or proposal concerning any (a) merger, consolidation, business combination, or similar transaction involving 20% or more of the voting power of the Company, (b) sale, lease or other disposition directly or indirectly by merger, consolidation, business combination, share exchange, joint venture, or otherwise of assets or businesses of the Company representing 20% or more of the consolidated assets, revenues or net income of the Company, (c) issuance, sale, or other disposition of (including by way of merger, consolidation, business combination, share exchange, joint venture, or any similar transaction) Equity Interests representing 20% or more of the voting power of the Company, (d) transaction in which any person or Group shall acquire beneficial ownership, or the right to acquire beneficial ownership, of 20% or more of the outstanding voting capital stock of the Company or (e) any combination of the foregoing (in each case, other than the Merger). For purposes of clarification, a Permitted Financing shall not be considered an Acquisition Proposal if such Permitted Financing does not fall within the foregoing definition of an Acquisition Proposal.

affiliate means a person that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, the first-mentioned person.

beneficial ownership (and related terms such as beneficially owned or beneficial owner) has the meaning set forth in Rule 13d-3 under the Exchange Act.

Benefit Agreement means (a) any employment, deferred compensation, consulting, severance, change of control, termination, retention, indemnification, loan or similar agreement between the Company or any of the Company Subsidiaries, on the one hand, and any Participant, on the other hand, or (b) any agreement between the Company or any of the Company Subsidiaries, on the one hand, and any Participant, on the other hand, the benefits of which are contingent, or the terms of which are materially altered, upon the occurrence of a transaction involving the Company of a nature contemplated by this Agreement.

Benefit Plan means any employment, bonus, pension, profit sharing, retirement, deferred compensation, incentive compensation, stock ownership, equity or equity-based compensation, paid time off, perquisite, fringe

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benefit, vacation, change of control, severance, retention, disability, death benefit, hospitalization, medical, welfare benefit or other plan, program, policy, arrangement, agreement or understanding (whether or not legally binding) sponsored, maintained, contributed to or required to be sponsored, maintained or contributed to by the Company or any of the Company Subsidiaries or any other Commonly Controlled Entity, or with respect to which any of them have any liability (contingent or otherwise), in each case, providing benefits to any Participant, but not including any Benefit Agreement.

Blue Sky Laws means state securities or blue sky laws.

Business Day shall mean any day other than a day on which the SEC shall be closed.

Company Material Adverse Effect means any change, event or effect that has had or would reasonably be expected to have a material adverse effect on the business, financial condition, or results of operations of the Company; *provided*, *however*, that none of the following shall be deemed in themselves, either alone or in combination, to constitute, and that none of the following shall be taken into account in determining whether there has been or will be, a Company Material Adverse Effect: (a) any adverse change, event or effect to the extent attributable to the execution of this Agreement or the public announcement or pendency of the Merger or the Transactions (including any loss of employees or any loss of, or any disruption in, supplier, licensor, licensee, partner or similar relationships), and any litigation arising from allegations of any breach of fiduciary duty or violation of Law relating to this Agreement or the Transactions; (b) any adverse change, event or effect attributable to conditions affecting the pharmaceutical industry in general (or any segment thereof in which the Company has material operations or sales), the U.S. economy or financial markets or any of the foreign economies in any locations where the Company or the Company Subsidiaries has material operations or sales except to the extent the Company is disproportionally affected thereby; (c) any adverse change, event or effect arising from or relating to compliance with the terms of this Agreement, or action taken, or failure to act, to which Parent has consented; (d) changes in Laws, including the rules, regulations and administrative policies of any Health Authority, or any interpretation thereof except to the extent the Company is disproportionally affected thereby; (e) changes in GAAP or regulatory accounting principles except to the extent the Company is disproportionally affected thereby; (f) earthquakes, fires, floods, hurricanes, tornadoes or similar catastrophes; (g) acts of war, sabotage, terrorism, military action or any escalation or worsening thereof whether commenced before or after the date of this Agreement, and whether or not pursuant to the declaration of national emergency or war except to the extent the Company is disproportionally affected thereby; (h) any failure, in and of itself, by the Company to meet any internal or third party estimates, projections or forecasts of revenue, earnings or other financial performance for any period (or for which revenues, earnings or other financial results are released), (i) the identity of Parent or Merger Sub as the acquiror of the Company or (j) a Permitted Financing.

Company Products means all marketed products, and all compounds and Product Candidates that are being evaluated by the Company or any Company Subsidiary, whether in clinical trials as to which the Company or any Company Subsidiary holds the applicable Investigational New Drug Applications or in earlier stages of development including, without limitation, including, without limitation, the Endometrial Regenerative Cell (ERC) universal donor adult stem cell product (ERC-124).

Company Subsidiaries means the subsidiaries of the Company, which shall include any corporation, limited liability company, limited partnership, limited liability partnership or other organization acquired as a subsidiary of the Company in the future and held as a subsidiary by the Company at the Effective Time.

contracts means any written agreements, contracts, leases, notes, loans, indentures, letters of credit, settlement agreements, franchise agreements, covenants not to compete, employment agreements, licenses, or other binding executory commitments to which any person is a party or to which any of the assets of a person are subject.

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control (including the terms controlled by and under common control with) means the possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of a person, whether through the ownership of stock or as trustee or executor, by contract or otherwise.

Environmental Laws means any federal, state, local or foreign statute, law, ordinance, regulation, rule, code, treaty, writ or order and any enforceable judicial or administrative interpretation thereof, including any judicial or administrative order, consent decree, judgment, stipulation, injunction, permit, authorization, policy, opinion, or agency requirement, in each case having the force and effect of law, relating to the pollution, protection, investigation or restoration of the environment, health and safety as affected by the environment or natural resources, including, without limitation, those relating to the use, handling, presence, transportation, treatment, storage, disposal, release, threatened release or discharge of Hazardous Materials or noise, odor, wetlands, pollution or contamination.

Environmental Permits means any permit, approval, identification number, license and other authorization required under any applicable Environmental Law.

Equity Interest means any share, capital stock, partnership, membership or similar interest in any entity, and any option, warrant, right or security (including debt securities) convertible, exchangeable or exercisable therefor.

ERISA means the Employee Retirement Income Security Act of 1974, as amended.

Exchange means the New York Stock Exchange LLC.

Exchange Act shall mean Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

Excluded Party means any person, or group of persons or Group that includes any person (so long as such person, together with all other members of such Group, if any, who were members of such Group or another Group that included such person immediately prior to the No-Shop Period Start Date, represent at least 50% of the equity financing of such Group at all times following the No-Shop Period Start Date and prior to the termination of this Agreement) from whom the Company or any of its Representatives has received, after the execution of this Agreement prior to the No-Shop Period Start Date, an Acquisition Proposal that the Company Board or duly constituted or authorized committee thereof determines, in good faith, prior to or as of the No-Shop Period Start Date and after consultation with its financial advisors and legal counsel, constitutes or could reasonably be expected to lead to a Superior Proposal; *provided* that any such person or Group shall cease to be an Excluded Party if such Person or Group ceases to be engaged in active discussions concerning an Acquisition Proposal.

GAAP means generally accepted accounting principles as applied in the United States and consistently applied during the periods involved.

Good Clinical Practices means, with respect to the Company, statutory and regulatory requirements for clinical trials, including all applicable requirements relating to protection of human subjects, as set forth in the FDCA and applicable regulations promulgated thereunder (including, for example, 21 C.F.R. Parts 50, 54, 56 and 312), as amended from time to time.

Good Laboratory Practices means, with respect to the Company, requirements for conduct of non-clinical studies set forth in 21 C.F.R. Part 58 and like requirements of other Governmental Entities in any other countries in which such studies are conducted by or for the Company, to the extent such standards are not less stringent than in the United States.

Good Manufacturing Practices means, with respect to the Company, the then current standards for the manufacture, processing, packaging, testing, handling and holding of drug products, as set forth in the FDCA and applicable regulations promulgated thereunder, as amended from time to time.

Governmental Entity means any federal, state, provincial or local court, administrative or regulatory agency or commission or other governmental authority or instrumentality, domestic or foreign.

Group is defined in Rule 13d-5(b) promulgated under the Exchange Act.

Hazardous Materials means (a) any petroleum, petroleum products, byproducts or breakdown products, radioactive materials, asbestos-containing materials or polychlorinated biphenyls or (b) any chemical, material or other substance defined or regulated as toxic or hazardous or as a pollutant or contaminant or waste under any applicable Environmental Law.

Health Authorities means the Governmental Entities which administer Health Laws including the FDA.

Health Laws means any Law of any Governmental Entity (including multi-country organizations) the purpose of which is to ensure the safety, efficacy and quality of medicines or pharmaceuticals by regulating the research, development, manufacturing and distribution of these products, including Laws relating to Good Laboratory Practices, Good Clinical Practices, investigational use, product marketing authorization, manufacturing facilities compliance and approval, Good Manufacturing Practices, labeling, advertising, promotional practices, safety surveillance, record keeping and filing of required reports such as the U.S. Food, Drug and Cosmetic Act of 1938, as amended (the FDCA), and the Public Health Service Act, as amended, in each case including the associated rules and regulations promulgated thereunder and their foreign equivalents.

Intellectual Property means: (a) patents, patent applications of any kind (including, without limitation, provisional, utility, divisions, continuations, continuations in part and renewal applications and foreign counterparts thereof), inventions, discoveries, inventor s certificates, and invention disclosures (whether or not patented), and any renewals, extensions, re-examinations, supplementary protection certificates or reissues thereof, in any jurisdiction; (b) rights in registered and unregistered trademarks, trade names, service marks, brand names, certification marks, trade dress, logos, and other indications of origin, the goodwill associated with the foregoing and registrations in any jurisdiction of, and applications in any jurisdiction to register, the foregoing, including any extension, modification or renewal of any such registration or application; (c) domain names, uniform resource locators and other names and locators associated with the Internet, and any and all applications or registrations therefor; (d) all trade secrets, and other confidential information including technology, know how, data, processes, schematics, business methods, formulae, drawings, designs, compositions of matter, techniques, improvements, methods (including manufacturing methods), clinical and regulatory strategies, formulations, manufacturing data and processes specifications, manuals, research and development/clinical proposals and proprietary customer and supplier lists, and all documentation relating to any of the foregoing; (e) copyrighted and copyrightable writings, published and unpublished writings and other works, whether copyrightable or not, in any jurisdiction, registrations or applications for registration of copyrights in any jurisdiction, designs, schematics and specifications, derivative works in any jurisdiction for the foregoing, and any renewals or extensions thereof or moral rights related thereto; (f) rights under all agreements, including agreements with any person, relating to the foregoing; (g) claims or causes of action arising out of or related to past, present or future infringement or misappropriation of the foregoing; and (h) any and all other intellectual property or proprietary rights relating to any of the foregoing.

Investigational New Drug Application or IND means an application submitted pursuant to FDCA 505(i) and described in 21 C.F.R. §312.23, and amendments and supplements thereto.

IRS means the United States Internal Revenue Service.

knowledge will be deemed to be present with respect to the knowledge of Parent or Merger Sub when the matter in question was actually known (without independent inquiry or investigation) to the individuals listed on Section 8.4(a) of the Parent Disclosure Schedule and knowledge will be deemed to be present with respect to the Company when the matter in question was actually known (without independent inquiry or investigation) to the individuals listed on Section 8.4(b) of the Company Disclosure Schedule.

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Law means law, statute, code, ordinance, rule, regulation, order, judgment, writ, stipulation, award, injunction or decree, in each case, of any Governmental Entity.

OTCQB means the OTCQB tiered marketplace maintained by OTC Markets Group.

Other Filings means all filings made by, or required to be made by, the Company, Parent or Merger Sub with the SEC in connection with this Agreement and the Transactions, other than the Proxy Statement and the Registration Statement.

Organizational Documents means (a) with respect to a corporation or association, its certificate or articles of incorporation or association and bylaws, (b) with respect to any limited liability company, its certificate of formation, articles of organization, regulations, operating agreement and limited liability company agreement, as applicable, (c) with respect to any limited partnership, its certificate of limited partnership and limited partnership agreement, (d) with respect to any general partnership, its partnership agreement, and (e) all other similar organizational documents.

Parent Exclusively Licensed IP means all Parent Licensed IP, to the extent exclusively licensed to Parent.

Parent Licensed IP means all in-bound patent licenses, trademark licenses and copyright licenses (including software) which, in each case, is material to the business of Parent as currently conducted; *provided*, *however*, that Parent Licensed IP shall not include any licenses for click-wrap, shrink-wrap or off-the-shelf software.

Parent Material Adverse Effect means any change, event or effect that has had, or would reasonably be expected to have, a material adverse effect on the business, financial condition, or results of operations of Parent and the Parent Subsidiaries, taken as a whole; *provided*, *however*, that none of the following shall be deemed in themselves, either alone or in combination, to constitute, and that none of the following shall be taken into account in determining whether there has been or will be, a Parent Material Adverse Effect: (a) any adverse change, event or effect to the extent attributable to the execution of this Agreement or the public announcement or pendency of the Merger or the Transactions (including any loss of employees or any loss of, or any disruption in, supplier, licensor, licensee, partner or similar relationships); (b) any adverse change, event or effect attributable to conditions affecting the pharmaceutical industry in general (or any segment thereof in which Parent or any Parent Subsidiary has material operations or sales), the U.S. economy or financial markets or any of the foreign economies in any locations where Parent or any Parent Subsidiary has material operations or sales except to the extent Parent is disproportionally affected thereby; (c) any adverse change, event or effect arising from or relating to compliance with the terms of this Agreement, or action taken, or failure to act to which the Company has consented; (d) changes in Laws after the date hereof, including the rules, regulations and administrative policies of any Health Authority, or any interpretation thereof, except to the extent Parent is disproportionally affected thereby; (e) changes in GAAP or regulatory accounting principles except to the extent Parent is disproportionally affected thereby; (f) earthquakes, fires, floods, hurricanes, tornadoes or similar catastrophes; (g) acts of war, sabotage, terrorism, military action or any escalation or worsening thereof whether commenced before or after the date of this Agreement, and whether or not pursuant to the declaration of national emergency or war except to the extent Parent is disproportionally affected thereby; (h) any failure, in and of itself, by Parent to meet any internal or third party estimates, projections or forecasts of revenue, earnings or other financial performance for any period (or for which revenues, earnings or other financial results are released); (i) any change in the trading price or trading volume of the Parent Common Stock; or (j) the identity of the Company as the company being acquired by Parent or Merger Sub.

Parent Owned IP means all United States, state and foreign registrations of and applications for patents, trademarks, domain names, and copyrights owned by Parent.

Participant means any current or former director, officer, employee, consultant or other service provider of the Company, the Company Subsidiaries or any other Commonly Controlled Entity.

Permit means any permit, license, franchise, registration, qualification, right, variance, authorization, waiver, grant, concession, exemption, order, approval, certificate, or certification of any Governmental Entity, other than Regulatory Authorizations.

person means an individual, corporation, limited liability company, partnership, association, trust, unincorporated organization, other entity or group.

Regulatory Authorization means any approvals, clearances, authorizations, registrations, certifications and licenses granted by any Health Authority, including of any INDs and NDAs.

Representatives means, when used with respect to any person, the directors, officers, employees, consultants, financial advisors, accountants, legal counsel, investment bankers and other agents, advisors and representatives of such person and its subsidiaries, if applicable.

SEC means the U.S. Securities and Exchange Commission.

Securities Act means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

subsidiary or subsidiaries means, with respect to any person, any foreign or domestic corporation, partnership, joint venture or other legal entity, whether incorporated or unincorporated, of which (a) such person (either alone or through or together with any other subsidiary) is a general partner (excluding such partnerships where such person or any subsidiary of such person does not have a majority of the voting interest in such partnership) or (b) at least a majority of the securities or other equity interests having by their terms ordinary voting power to elect a majority of the directors or others performing similar functions with respect to such corporation or other legal entity is directly or indirectly owned or controlled by such person or by one or more of such person s subsidiaries, or by such person and one or more of its subsidiaries.

Superior Proposal means an Acquisition Proposal (except that the phrase 20% or more in the definition of Acquisition Proposal shall be replaced with the phrase 50% or more for purposes of this definition) made by a third party which, in the good faith judgment of the Company Board (after consultation with its financial advisors and outside legal counsel), (a) would if consummated result in a transaction that is more favorable to the Company s stockholders from a financial point of view than the Transactions, and (b) is reasonably likely of being consummated on the terms proposed, taking into account all financial, legal, regulatory and other aspects of such proposal, including all conditions contained therein.

Tax Returns means any report, return (including information return), claim for refund, election, estimated tax filing or declaration with respect to Taxes, including any schedule or attachment thereto, and including any amendments thereof, required to be filed with a Governmental Entity that has responsibility for assessment or collection of Taxes.

Taxes means any federal, state, local or foreign income, gross receipts, branch profits, license, payroll, employment, excise, severance, stamp, occupation, premium, windfall profits, escheat, environmental, customs duties, capital stock, franchise, profits, withholding, social security, unemployment, disability, real property, personal property, sales, use, transfer, registration, ad valorem, value added, alternative or add-on minimum or estimated tax or other tax of any kind whatsoever, including any interest, penalty or addition thereto, whether disputed or not.

Treasury Regulation(s) means the temporary and final Treasury Regulations promulgated under the Code.

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Section 8.5 Terms Defined Elsewhere. The following terms are defined elsewhere in this Agreement, as indicated below:

409A Authorities	Section 3.11(i)
Acceptable Confidentiality Agreement	Section 5.7(c)(ii)
Agreement	Preamble
Alternative Acquisition Agreement	Section 5.7(d)(ii)
Articles of Merger	Section 1.2(b)
Balance Sheet Date	Section 3.8(g)
Book-Entry Shares	Section 2.1(c)
Cash Consideration	Section 2.1(c)
Certificate	Section 2.1(c)
Change Notice	Section 5.7(f)
Closing	Section 1.2(a)
Closing Date	Section 1.2(a)
Closing Tax Opinions	Section 5.14(b)
Closing Tax Representation Letters	Section 5.14(b)
Code	Recitals
Commonly Controlled Entity	Section 3.11(c)
Company	Preamble
Company Board	Section 2.3(d)
Company Bylaws	Section 3.2
Company Certificate	Section 3.2
Company Change in Recommendation	Section 5.7(d)(i)
Company Common Stock	Section 2.1
Company Disclosure Schedule	Article III
Company Exclusively Licensed IP	Section 3.17
Company Financial Advisor	Section 3.21
Company Governing Documents	Section 3.2
Company Leases	Section 3.15(b)
Company Licensed IP	Section 3.17
Company Material Contract	Section 3.13(a)

Company Note	Section 2.5(a)
Company Option Agreement	Section 2.3(d)
Company Option Plans	Section 2.3(a)
Company Option	Section 2.3(a)

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No-Shop Period Start Date	Section 5.7(b)
Noteholder	Section 2.5(a)

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Subsidiary Securities	Section 3.3(d)
Surviving Corporation	Section 1.1

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Takeover Statute	Section 3.4(b)
Tax Representation Letters	Section 5.14(b)
Termination Fee	Section 7.2(b)
Transactions	Section 3.4(a)
Transitioning Employees	Section 5.13
U.S. Person	Section 3.25(b)(iii)
Voting Agreements	Recitals
Warrantholder	Section 2.4(a)

Section 8.6 Severability. If any term or other provision of this Agreement is invalid, illegal or incapable of being enforced by any rule of Law or public policy, all other conditions and provisions of this Agreement shall nevertheless remain in full force and effect so long as the economic or legal substance of the transactions contemplated hereby is not affected in any manner materially adverse to any party. Upon a final determination that any term or other provision is invalid, illegal or incapable of being enforced, the parties hereto shall negotiate in good faith to modify this Agreement so as to effect the original intent of the parties as closely as possible in an acceptable manner to the end that the transactions contemplated hereby are fulfilled to the extent possible and the parties agree that the court making such determination shall have the power to reduce the scope, duration, area or applicability of the term or provision, to delete specific words or phrases, or to replace any invalid, void or unenforceable term or provision with a term or provision that is valid and enforceable and that comes closest to expressing the intention of the invalid or unenforceable term or provision.

Section 8.7 Entire Agreement. This Agreement (together with the Exhibits, Parent Disclosure Schedule and Company Disclosure Schedule and the other documents delivered pursuant hereto), and the Confidentiality Agreement, constitute the entire agreement of the parties and supersede all prior agreements and undertakings, both written and oral, among the parties, or any of them, with respect to the subject matter hereof and, except as otherwise expressly provided in this Agreement, are not intended to confer upon any other person any rights or remedies hereunder.

Section 8.8 Assignment. This Agreement shall not be assigned by operation of Law or otherwise without the prior written consent of the other parties, and any purported assignment hereof shall be null and void.

Section 8.9 Parties in Interest. This Agreement shall be binding upon and inure solely to the benefit of each party hereto and their respective successors and assigns, and nothing in this Agreement, express or implied, other than pursuant to Section 2.3, Section 2.4, Section 2.5 and Section 5.12, is intended to or shall confer upon any other person any right, benefit or remedy of any nature whatsoever under or by reason of this Agreement.

Section 8.10 Interpretation. The parties hereto and their respective counsel have participated jointly in the negotiation and drafting of this Agreement. In the event an ambiguity or question of intent or interpretation arises, this Agreement shall be construed as drafted jointly by the parties hereto with the advice and participation of counsel and no presumption or burden of proof shall arise favoring or disfavoring any party hereto by virtue of the authorship of any of the provisions of this Agreement.

For purposes of this Agreement: (a) the table of contents and headings contained in this Agreement are for reference purposes only and shall in no way modify or restrict any of the terms or provisions hereof, (b) except as expressly provided herein, the terms include, includes or including are not limiting, (c) the words hereof , herein , hereby hereunder and words of similar import shall, unless otherwise stated, be construed to refer to this Agreement as a

whole and not to any particular provision of this Agreement, (d) article, section, paragraph, exhibit, annex and schedule references are to the articles, sections, paragraphs, exhibits, annexes and

schedules of this Agreement unless otherwise specified, (e) the meaning assigned to each term defined herein shall be equally applicable to both the singular and the plural forms of such term, and words denoting any gender shall include all genders, (f) a reference to any party to this Agreement or any other agreement or document shall include such party s successors and permitted assigns, (g) a reference to any Laws or other legislation or to any provision of any Law or legislation shall include any amendment to, and any modification or re-enactment thereof, any provision substituted therefor and all regulations and statutory instruments issued thereunder or pursuant thereto, (h) the word extent in the phrase to the extent means the degree to which a subject or other thing extends, and such phrase does not mean simply if ; (i) all references to $ or dollars shall be deemed references to United States dollars; and (j) capitalized terms used and not defined in the exhibits, annexes and schedules attached to this Agreement shall have the respective meanings set forth in this Agreement.

Section 8.11 Governing Law; Consent to Jurisdiction; Waiver of Trial by Jury.

(a) This Agreement shall be governed by, and construed in accordance with, the Laws of the State of New York (including sections 5-1401 and 5-1402 of the New York General Obligations Law but excluding all other choice of law and conflicts of law rules), except to the extent that mandatory provisions of federal Law apply or mandatory principles of Law require the application of the NRS.

(b) Each of the parties irrevocably and unconditionally submits, for itself and its property, to the exclusive jurisdiction of the United States District Court for the Southern District of New York, or if such court declines to accept jurisdiction, any federal or state court within the State of New York, and, in each case, any appellate court thereof, in any action or proceeding arising out of or relating to this Agreement or the agreements delivered in connection herewith or the Transactions or for recognition or enforcement of any judgment relating thereto, and each of the parties hereby irrevocably and unconditionally (i) agrees not to commence any such action or proceeding except in such courts, (ii) agrees that any claim in respect of any such action or proceeding may be heard and determined in such courts, (iii) waives, to the fullest extent it may legally and effectively do so, any objection which it may now or hereafter have to the laying of venue of any such action or proceeding in such courts, and (iv) waives, to the fullest extent permitted by Law, the defense of an inconvenient forum to the maintenance of such action or proceeding in such courts. Each of the parties hereto agrees that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by Law. Each party to this Agreement irrevocably consents to service of process in the manner provided for notices in Section 8.3. Nothing in this Agreement will affect the right of any party to this Agreement to serve process in any other manner permitted by Law.

(c) EACH PARTY ACKNOWLEDGES AND AGREES THAT ANY CONTROVERSY WHICH MAY ARISE UNDER THIS AGREEMENT IS LIKELY TO INVOLVE COMPLICATED AND DIFFICULT ISSUES, AND THEREFORE IT HEREBY IRREVOCABLY AND UNCONDITIONALLY WAIVES ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LITIGATION DIRECTLY OR INDIRECTLY ARISING OUT OF OR RELATING TO THIS AGREEMENT AND ANY OF THE AGREEMENTS DELIVERED IN CONNECTION HEREWITH OR THE TRANSACTIONS CONTEMPLATED HEREBY OR THEREBY. EACH PARTY CERTIFIES AND ACKNOWLEDGES THAT (I) NO REPRESENTATIVE, AGENT OR ATTORNEY OF ANY OTHER PARTY HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PARTY WOULD NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE EITHER OF SUCH WAIVERS, (II) IT UNDERSTANDS AND HAS CONSIDERED THE IMPLICATIONS OF SUCH WAIVERS, (III) IT MAKES SUCH WAIVERS VOLUNTARILY, AND (IV) IT HAS BEEN INDUCED TO ENTER INTO THIS AGREEMENT BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION 8.11(c).

Section 8.12 Damages. OTHER THAN AS EXPRESSLY PROVIDED HEREIN, NO PARTY HERETO SHALL BE LIABLE TO ANY OTHER PARTY HERETO (INCLUDING ITS RESPECTIVE HEIRS, LEGAL REPRESENTATIVES, SUCCESSORS OR ASSIGNS, AS THE CASE MAY BE HEREUNDER) FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL OR PUNITIVE DAMAGES ARISING OUT OF THIS

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AGREEMENT, WHETHER FOR BREACH OF REPRESENTATION OR WARRANTY OR COVENANT OR OTHER AGREEMENT OR ANY OBLIGATION ARISING THEREFROM OR OTHERWISE, WHETHER LIABILITY IS ASSERTED IN CONTRACT OR TORT (INCLUDING NEGLIGENCE AND STRICT PRODUCT LIABILITY) AND REGARDLESS OF WHETHER SUCH PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF ANY SUCH LOSS OR DAMAGE. EACH PARTY HERETO HEREBY WAIVES ANY CLAIMS THAT THESE EXCLUSIONS DEPRIVE SUCH PARTY OF AN ADEQUATE REMEDY.

Section 8.13 Disclosure. The representations and warranties contained in Article III and Article IV are qualified by reference to the Company Disclosure Schedule and the Parent Disclosure Schedule (each a Disclosure Schedule and collectively, Disclosure Schedules), respectively. A matter set forth in one section of a Disclosure Schedule need not be set forth in any other section of such Disclosure Schedule so long as its relevance to the latter section of such Disclosure Schedule or section of the Agreement is reasonably apparent on the face of the information disclosed in such Disclosure Schedule to the person to which such disclosure is being made. Each of Parent, Merger Sub and the Company acknowledge that (a) the Disclosure Schedules may include items or information that are not required to be disclosed under this Agreement, (b) disclosure of such items or information shall not affect directly or indirectly, the interpretation of this Agreement or the scope of the disclosure obligations under this Agreement and (c) inclusion of information in the Disclosure Schedules shall not be construed as an admission that such information is material to the disclosing party. Such information and the dollar thresholds set forth herein shall not be used as a basis for interpreting the terms material or Material Adverse Effect or other similar terms in this Agreement. Similarly, in such matters where a representation or warranty is given or other information is provided, the disclosure of any matter in a party s Disclosure Schedule shall not imply that any other undisclosed matter having a greater value or other significance is material. Each of Parent, Merger Sub and the Company further acknowledges that headings have been inserted on sections of the Disclosure Schedules for the convenience of reference only and shall not affect the construction or interpretation of any of the provisions of this Agreement or the Disclosure Schedules.

Section 8.14 Counterparts. This Agreement may be executed in one or more counterparts, and by the different parties hereto in separate counterparts, each of which when executed shall be deemed to be an original but all of which taken together shall constitute one and the same agreement.

Section 8.15 Specific Performance. The parties hereto agree that irreparable damage would occur in the event that any of the provisions of this Agreement were not performed in accordance with their specific terms or were otherwise breached. It is accordingly agreed that the parties shall be entitled to an injunction or injunctions to prevent breaches of this Agreement and to enforce specifically the terms and provisions hereof in any court of the United States or any state having jurisdiction, this being in addition to any other remedy to which they are entitled at law or in equity.

{SIGNATURE PAGE FOLLOWS}

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IN WITNESS WHEREOF, Parent, Merger Sub and the Company have caused this Agreement to be executed as of the date first written above by their respective officers thereunto duly authorized.

INTREXON CORPORATION

By: /s/ Randal J. Kirk
Name: Randal J. Kirk
Title: Chief Executive Officer

XON CELLS, INC.

By: /s/ Randal J. Kirk
Name: Randal J. Kirk
Title: President

MEDISTEM INC.

By: /s/ Alan J. Lewis
Name: Alan J. Lewis, Ph.D.
Title: Chief Executive Officer

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FIRST AMENDMENT TO AGREEMENT AND PLAN OF MERGER

This FIRST AMENDMENT TO AGREEMENT AND PLAN OF MERGER (this "Amendment"), dated as of January 29, 2014, is by and among Intrexon Corporation, a Virginia corporation ("Parent"), XON Cells, Inc., a Nevada corporation and a wholly owned subsidiary of Parent ("Merger Sub"), and Medistem Inc., a Nevada corporation (the "Company").

WHEREAS, Parent, Merger Sub and the Company are parties to that Agreement and Plan of Merger, dated as of December 19, 2013 (the "Agreement");

WHEREAS, Parent, Merger Sub and the Company desire to amend the Agreement on the terms and conditions set forth herein;

WHEREAS, Section 7.3 of the Agreement provides that: (i) the Agreement may be amended by the parties by action taken by or on behalf of their respective Boards of Directors at any time prior to the Closing Date; provided, however, that, after approval of the Merger by the stockholders of the Company, no amendment may be made that, by Law or in accordance with the rules of any relevant stock exchange, requires further approval by such stockholders; and (ii) the Agreement may not be amended except by an instrument in writing signed by the parties hereto; and

WHEREAS, the respective Boards of Directors of the parties to the Agreement have approved this Amendment prior to the approval of the Merger by the stockholders of the Company.

NOW, THEREFORE, in consideration of the foregoing and the respective representations, warranties, covenants and agreements set forth below and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto, intending to be legally bound, do hereby agree as follows:

1. Definitions. Capitalized terms used and not otherwise defined herein (including in the recitals hereto) shall have the meanings given to them in the Agreement.

2. Amendments.

a. A new Section 5.17 is hereby added to the Agreement to read as follows:
"Section 5.17. If, prior to the Closing, there are any Company Stockholders who have properly exercised and preserved dissenters' rights and such exercise has not been withdrawn or otherwise satisfied immediately prior to the Effective Time, then, immediately following the Effective Time of the Merger, Parent shall cause the Surviving Corporation to merge, in accordance with applicable Law, with and into a limited liability company and wholly owned subsidiary of Parent ("Second Merger Sub"), with Second Merger Sub surviving such merger (the "Subsequent Merger"). For these purposes, the parties hereby confirm that it is intended that the Merger and the Subsequent Merger constitute an integrated plan of the type contemplated in IRS Revenue Ruling 2001-46, 2001-2 C.B. 321 (the "Integrated Transaction") and that in the event that the Integrated Transaction is to qualify as a "reorganization" within the meaning of Section 368(a) of the Code, and the regulations promulgated thereunder, then the parties intend for this Agreement to constitute a plan of reorganization within the meaning of Section 368(a) of the Code for U.S. federal income Tax purposes. The parties further acknowledge and agree that in no way shall such restructuring result in any change in the Cash Consideration, the Stock Consideration, the Merger Consideration or in the economics or other material terms of the transactions contemplated by this Agreement to the Company or its stockholders, or Parent, Merger Sub or their

shareholders and stockholders, respectively.

b. The reference to Section 5.7(e) in the last sentence of Section 5.7(d) of the Agreement is hereby amended to be a reference to Section 5.7(f) .

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3. Effect of Amendment. The provisions of the Agreement are amended and modified by the provisions of this Amendment. If any provision of the Agreement is materially different from or inconsistent with any provision of this Amendment, the provision of this Amendment shall control, and the provision of the Agreement shall, to the extent of such difference or inconsistency, be disregarded.

4. Single Agreement. This Amendment and the Agreement, as amended and modified by the provisions of this Amendment, shall constitute and shall be construed as a single agreement. The provisions of the Agreement, as amended and modified by the provisions of this Amendment, are incorporated herein by this reference and are ratified and affirmed. The term Agreement as used in the Agreement shall be deemed to refer to the Agreement as amended hereby.

5. Headings. The underlined headings herein are for convenience only and shall not affect the interpretation of this Amendment.

6. Governing Law. This Amendment shall be governed by, and construed in accordance with, the Laws of the State of New York (including sections 5-1401 and 5-1402 of the New York General Obligations Law but excluding all other choice of law and conflicts of law rules), except to the extent that mandatory provisions of federal Law apply or mandatory principles of Law require the application of the NRS.

7. Counterparts. This Amendment may be executed in one or more counterparts, and by the different parties hereto in separate counterparts, each of which when executed shall be deemed to be an original but all of which taken together shall constitute one and the same agreement.

8. Entire Agreement. The Agreement, as amended and modified by this Amendment, constitutes the entire agreement between the parties with respect to the subject matter of this Agreement and supersedes all prior agreements and understandings, both oral and written, between the parties with respect to its subject matter.

{Signature Page to Follow}

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IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be executed as of the date first written above by their respective officers thereunto duly authorized.

INTREXON CORPORATION

By: /s/ Randal J. Kirk
Name: Randal J. Kirk
Title: Chief Executive Officer

XON CELLS, INC.

By: /s/ Randal J. Kirk
Name: Randal J. Kirk
Title: President

MEDISTEM INC.

By: /s/ Alan J. Lewis
Name: Alan J. Lewis, Ph.D.
Title: Chief Executive Officer

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Annex B

CHAPTER 92A.300-500

OF THE NEVADA REVISED STATUTES

RIGHTS OF DISSENTING OWNERS

NRS 92A.300 Definitions. As used in NRS 92A.300 to 92A.500, inclusive, unless the context otherwise requires, the words and terms defined in NRS 92A.305 to 92A.335, inclusive, have the meanings ascribed to them in those sections.

(Added to NRS by 1995, 2086)

NRS 92A.305 Beneficial stockholder defined. Beneficial stockholder means a person who is a beneficial owner of shares held in a voting trust or by a nominee as the stockholder of record.

(Added to NRS by 1995, 2087)

NRS 92A.310 Corporate action defined. Corporate action means the action of a domestic corporation.

(Added to NRS by 1995, 2087)

NRS 92A.315 Dissenter defined. Dissenter means a stockholder who is entitled to dissent from a domestic corporation s action under NRS 92A.380 and who exercises that right when and in the manner required by NRS 92A.400 to 92A.480, inclusive.

(Added to NRS by 1995, 2087; A 1999, 1631)

NRS 92A.320 Fair value defined. Fair value, with respect to a dissenter s shares, means the value of the shares determined:

1. Immediately before the effectuation of the corporate action to which the dissenter objects, excluding any appreciation or depreciation in anticipation of the corporate action unless exclusion would be inequitable;

2. Using customary and current valuation concepts and techniques generally employed for similar businesses in the context of the transaction requiring appraisal; and

3. Without discounting for lack of marketability or minority status.

(Added to NRS by 1995, 2087; A 2009, 1720)

NRS 92A.325 Stockholder defined. Stockholder means a stockholder of record or a beneficial stockholder of a domestic corporation.

(Added to NRS by 1995, 2087)

NRS 92A.330 Stockholder of record defined. Stockholder of record means the person in whose name shares are registered in the records of a domestic corporation or the beneficial owner of shares to the extent of the rights granted by a nominee s certificate on file with the domestic corporation.

(Added to NRS by 1995, 2087)

NRS 92A.335 Subject corporation defined. Subject corporation means the domestic corporation which is the issuer of the shares held by a dissenter before the corporate action creating the dissenter s rights becomes effective or the surviving or acquiring entity of that issuer after the corporate action becomes effective.

(Added to NRS by 1995, 2087)

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NRS 92A.340 Computation of interest. Interest payable pursuant to NRS 92A.300 to 92A.500, inclusive, must be computed from the effective date of the action until the date of payment, at the rate of interest most recently established pursuant to NRS 99.040.

(Added to NRS by 1995, 2087; A 2009, 1721)

NRS 92A.350 Rights of dissenting partner of domestic limited partnership. A partnership agreement of a domestic limited partnership or, unless otherwise provided in the partnership agreement, an agreement of merger or exchange, may provide that contractual rights with respect to the partnership interest of a dissenting general or limited partner of a domestic limited partnership are available for any class or group of partnership interests in connection with any merger or exchange in which the domestic limited partnership is a constituent entity.

(Added to NRS by 1995, 2088)

NRS 92A.360 Rights of dissenting member of domestic limited-liability company. The articles of organization or operating agreement of a domestic limited-liability company or, unless otherwise provided in the articles of organization or operating agreement, an agreement of merger or exchange, may provide that contractual rights with respect to the interest of a dissenting member are available in connection with any merger or exchange in which the domestic limited-liability company is a constituent entity.

(Added to NRS by 1995, 2088)

NRS 92A.370 Rights of dissenting member of domestic nonprofit corporation.

1. Except as otherwise provided in subsection 2, and unless otherwise provided in the articles or bylaws, any member of any constituent domestic nonprofit corporation who voted against the merger may, without prior notice, but within 30 days after the effective date of the merger, resign from membership and is thereby excused from all contractual obligations to the constituent or surviving corporations which did not occur before the member s resignation and is thereby entitled to those rights, if any, which would have existed if there had been no merger and the membership had been terminated or the member had been expelled.

2. Unless otherwise provided in its articles of incorporation or bylaws, no member of a domestic nonprofit corporation, including, but not limited to, a cooperative corporation, which supplies services described in chapter 704 of NRS to its members only, and no person who is a member of a domestic nonprofit corporation as a condition of or by reason of the ownership of an interest in real property, may resign and dissent pursuant to subsection 1.

(Added to NRS by 1995, 2088)

NRS 92A.380 Right of stockholder to dissent from certain corporate actions and to obtain payment for shares.

1. Except as otherwise provided in NRS 92A.370 and 92A.390and subject to the limitation in paragraph (f), any stockholder is entitled to dissent from, and obtain payment of the fair value of the stockholder s shares in the event of any of the following corporate actions:

(a) Consummation of a plan of merger to which the domestic corporation is a constituent entity:

(1) If approval by the stockholders is required for the merger by NRS 92A.120 to 92A.160, inclusive, or the articles of incorporation, regardless of whether the stockholder is entitled to vote on the plan of merger; or

(2) If the domestic corporation is a subsidiary and is merged with its parent pursuant to NRS 92A.180.

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(b) Consummation of a plan of conversion to which the domestic corporation is a constituent entity as the corporation whose subject owner s interests will be converted.

(c) Consummation of a plan of exchange to which the domestic corporation is a constituent entity as the corporation whose subject owner s interests will be acquired, if the stockholder s shares are to be acquired in the plan of exchange.

(d) Any corporate action taken pursuant to a vote of the stockholders to the extent that the articles of incorporation, bylaws or a resolution of the board of directors provides that voting or nonvoting stockholders are entitled to dissent and obtain payment for their shares.

(e) Accordance of full voting rights to control shares, as defined in NRS 78.3784, only to the extent provided for pursuant to NRS 78.3793.

(f) Any corporate action not described in this subsection that will result in the stockholder receiving money or scrip instead of a fraction of a share except where the stockholder would not be entitled to receive such payment pursuant to NRS 78.205, 78.2055 or 78.207. A dissent pursuant to this paragraph applies only to the fraction of a share, and the stockholder is entitled only to obtain payment of the fair value of the fraction of a share.

2. A stockholder who is entitled to dissent and obtain payment pursuant to NRS 92A.300 to 92A.500, inclusive, may not challenge the corporate action creating the entitlement unless the action is unlawful or fraudulent with respect to the stockholder or the domestic corporation.

3. Subject to the limitations in this subsection, from and after the effective date of any corporate action described in subsection 1, no stockholder who has exercised the right to dissent pursuant to NRS 92A.300 to 92A.500, inclusive, is entitled to vote his or her shares for any purpose or to receive payment of dividends or any other distributions on shares. This subsection does not apply to dividends or other distributions payable to stockholders on a date before the effective date of any corporate action from which the stockholder has dissented. If a stockholder exercises the right to dissent with respect to a corporate action described in paragraph (f) of subsection 1, the restrictions of this subsection apply only to the shares to be converted into a fraction of a share and the dividends and distributions to those shares.

(Added to NRS by 1995, 2087; A 2001, 1414, 3199; 2003, 3189; 2005, 2204; 2007, 2438; 2009, 1721; 2011, 2814)

NRS 92A.390 Limitations on right of dissent: Stockholders of certain classes or series; action of stockholders not required for plan of merger.

1. There is no right of dissent with respect to a plan of merger, conversion or exchange in favor of stockholders of any class or series which is:

(a) A covered security under section 18(b)(1)(A) or (B) of the Securities Act of 1933, 15 U.S.C. § 77r(b)(1)(A) or (B), as amended;

(b) Traded in an organized market and has at least 2,000 stockholders and a market value of at least $20,000,000, exclusive of the value of such shares held by the corporation s subsidiaries, senior executives, directors and beneficial stockholders owning more than 10 percent of such shares; or

(c) Issued by an open end management investment company registered with the Securities and Exchange Commission under the Investment Company Act of 1940, 15 U.S.C. §§ 80a-1 et seq., as amended, and which may be redeemed at the option of the holder at net asset value,

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¨ unless the articles of incorporation of the corporation issuing the class or series or the resolution of the board of directors approving the plan of merger, conversion or exchange expressly provide otherwise.

2. The applicability of subsection 1 must be determined as of:

(a) The record date fixed to determine the stockholders entitled to receive notice of and to vote at the meeting of stockholders to act upon the corporate action requiring dissenter s rights; or

(b) The day before the effective date of such corporate action if there is no meeting of stockholders.

3. Subsection 1 is not applicable and dissenter s rights are available pursuant to NRS 92A.380 for the holders of any class or series of shares who are required by the terms of the corporate action requiring dissenter s rights to accept for such shares anything other than cash or shares of any class or any series of shares of any corporation, or any other proprietary interest of any other entity, that satisfies the standards set forth in subsection 1 at the time the corporate action becomes effective.

4. There is no right of dissent for any holders of stock of the surviving domestic corporation if the plan of merger does not require action of the stockholders of the surviving domestic corporation under NRS 92A.130.

5. There is no right of dissent for any holders of stock of the parent domestic corporation if the plan of merger does not require action of the stockholders of the parent domestic corporation under NRS 92A.180.

(Added to NRS by 1995, 2088; A 2009, 1722;2013, 1285)

NRS 92A.400 Limitations on right of dissent: Assertion as to portions only to shares registered to stockholder; assertion by beneficial stockholder.

1. A stockholder of record may assert dissenter s rights as to fewer than all of the shares registered in his or her name only if the stockholder of record dissents with respect to all shares of the class or series beneficially owned by any one person and notifies the subject corporation in writing of the name and address of each person on whose behalf the stockholder of record asserts dissenter s rights. The rights of a partial dissenter under this subsection are determined as if the shares as to which the partial dissenter dissents and his or her other shares were registered in the names of different stockholders.

2. A beneficial stockholder may assert dissenter s rights as to shares held on his or her behalf only if the beneficial stockholder:

(a) Submits to the subject corporation the written consent of the stockholder of record to the dissent not later than the time the beneficial stockholder asserts dissenter s rights; and

(b) Does so with respect to all shares of which he or she is the beneficial stockholder or over which he or she has power to direct the vote.

(Added to NRS by 1995, 2089; A 2009, 1723)

NRS 92A.410 Notification of stockholders regarding right of dissent.

1. If a proposed corporate action creating dissenter s rights is submitted to a vote at a stockholders meeting, the notice of the meeting must state that stockholders are, are not or may be entitled to assert dissenter s rights under NRS 92A.300 to 92A.500, inclusive. If the domestic corporation concludes that dissenter s rights are or may be available, a copy of NRS 92A.300 to 92A.500, inclusive, must accompany the meeting notice sent to those record stockholders entitled to exercise dissenter s rights.

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2. If the corporate action creating dissenter s rights is taken by written consent of the stockholders or without a vote of the stockholders, the domestic corporation shall notify in writing all stockholders entitled to assert dissenter s rights that the action was taken and send them the dissenter s notice described in NRS 92A.430.

(Added to NRS by 1995, 2089; A 1997, 730; 2009, 1723; 2013, 1286)

NRS 92A.420 Prerequisites to demand for payment for shares.

1. If a proposed corporate action creating dissenter s rights is submitted to a vote at a stockholders meeting, a stockholder who wishes to assert dissenter s rights with respect to any class or series of shares:

(a) Must deliver to the subject corporation, before the vote is taken, written notice of the stockholder s intent to demand payment for his or her shares if the proposed action is effectuated; and

(b) Must not vote, or cause or permit to be voted, any of his or her shares of such class or series in favor of the proposed action.

2. If a proposed corporate action creating dissenter s rights is taken by written consent of the stockholders, a stockholder who wishes to assert dissenter s rights with respect to any class or series of shares must not consent to or approve the proposed corporate action with respect to such class or series.

3. A stockholder who does not satisfy the requirements of subsection 1 or 2 and NRS 92A.400is not entitled to payment for his or her shares under this chapter.

(Added to NRS by 1995, 2089; A 1999, 1631; 2005, 2204; 2009, 1723; 2013, 1286)

NRS 92A.430 Dissenter s notice: Delivery to stockholders entitled to assert rights; contents.

1. The subject corporation shall deliver a written dissenter s notice to all stockholders of record entitled to assert dissenter s rights in whole or in part, and any beneficial stockholder who has previously asserted dissenter s rights pursuant to NRS 92A.400.

2. The dissenter s notice must be sent no later than 10 days after the effective date of the corporate action specified in NRS 92A.380, and must:

(a) State where the demand for payment must be sent and where and when certificates, if any, for shares must be deposited;

(b) Inform the holders of shares not represented by certificates to what extent the transfer of the shares will be restricted after the demand for payment is received;

(c) Supply a form for demanding payment that includes the date of the first announcement to the news media or to the stockholders of the terms of the proposed action and requires that the person asserting dissenter s rights certify whether or not the person acquired beneficial ownership of the shares before that date;

(d) Set a date by which the subject corporation must receive the demand for payment, which may not be less than 30 nor more than 60 days after the date the notice is delivered and state that the stockholder shall be deemed to have waived the right to demand payment with respect to the shares unless the form is received by the subject corporation

by such specified date; and

(e) Be accompanied by a copy of NRS 92A.300 to 92A.500, inclusive.

(Added to NRS by 1995, 2089; A 2005, 2205; 2009, 1724; 2013, 1286)

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NRS 92A.440 Demand for payment and deposit of certificates; loss of rights of stockholder; withdrawal from appraisal process.

1. A stockholder who receives a dissenter s notice pursuant to NRS 92A.430 and who wishes to exercise dissenter s rights must:

(a) Demand payment;

(b) Certify whether the stockholder or the beneficial owner on whose behalf he or she is dissenting, as the case may be, acquired beneficial ownership of the shares before the date required to be set forth in the dissenter s notice for this certification; and

(c) Deposit the stockholder s certificates, if any, in accordance with the terms of the notice.

2. If a stockholder fails to make the certification required by paragraph (b) of subsection 1, the subject corporation may elect to treat the stockholder s shares as after-acquired shares under NRS 92A.470.

3. Once a stockholder deposits that stockholder s certificates or, in the case of uncertified shares makes demand for payment, that stockholder loses all rights as a stockholder, unless the stockholder withdraws pursuant to subsection 4.

4. A stockholder who has complied with subsection 1 may nevertheless decline to exercise dissenter s rights and withdraw from the appraisal process by so notifying the subject corporation in writing by the date set forth in the dissenter s notice pursuant to NRS 92A.430. A stockholder who fails to so withdraw from the appraisal process may not thereafter withdraw without the subject corporation s written consent.

5. The stockholder who does not demand payment or deposit his or her certificates where required, each by the date set forth in the dissenter s notice, is not entitled to payment for his or her shares under this chapter.

(Added to NRS by 1995, 2090; A 1997, 730; 2003, 3189; 2009, 1724)

NRS 92A.450 Uncertificated shares: Authority to restrict transfer after demand for payment. The subject corporation may restrict the transfer of shares not represented by a certificate from the date the demand for their payment is received.

(Added to NRS by 1995, 2090; A 2009, 1725)

NRS 92A.460 Payment for shares: General requirements.

1. Except as otherwise provided in NRS 92A.470, within 30 days after receipt of a demand for payment pursuant to NRS 92A.440, the subject corporation shall pay in cash to each dissenter who complied with NRS 92A.440 the amount the subject corporation estimates to be the fair value of the dissenter s shares, plus accrued interest. The obligation of the subject corporation under this subsection may be enforced by the district court:

(a) Of the county where the subject corporation s principal office is located;

(b) If the subject corporation s principal office is not located in this State, in the county in which the corporation s registered office is located; or

(c) At the election of any dissenter residing or having its principal or registered office in this State, of the county where the dissenter resides or has its principal or registered office.

¨ The court shall dispose of the complaint promptly.

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2. The payment must be accompanied by:

(a) The subject corporation s balance sheet as of the end of a fiscal year ending not more than 16 months before the date of payment, a statement of income for that year, a statement of changes in the stockholders equity for that year or, where such financial statements are not reasonably available, then such reasonably equivalent financial information and the latest available quarterly financial statements, if any;

(b) A statement of the subject corporation s estimate of the fair value of the shares; and

(c) A statement of the dissenter s rights to demand payment under NRS 92A.480 and that if any such stockholder does not do so within the period specified, such stockholder shall be deemed to have accepted such payment in full satisfaction of the corporation s obligations under this chapter.

(Added to NRS by 1995, 2090; A 2007, 2704; 2009, 1725; 2013, 1287)

NRS 92A.470 Withholding payment for shares acquired on or after date of dissenter s notice: General requirements.

1. A subject corporation may elect to withhold payment from a dissenter unless the dissenter was the beneficial owner of the shares before the date set forth in the dissenter s notice as the first date of any announcement to the news media or to the stockholders of the terms of the proposed action.

2. To the extent the subject corporation elects to withhold payment, within 30 days after receipt of a demand for payment pursuant to NRS 92A.440, the subject corporation shall notify the dissenters described in subsection 1:

(a) Of the information required by paragraph (a) of subsection 2 of NRS 92A.460;

(b) Of the subject corporation s estimate of fair value pursuant to paragraph (b) of subsection 2 of NRS 92A.460;

(c) That they may accept the subject corporation s estimate of fair value, plus interest, in full satisfaction of their demands or demand appraisal under NRS 92A.480;

(d) That those stockholders who wish to accept such an offer must so notify the subject corporation of their acceptance of the offer within 30 days after receipt of such offer; and

(e) That those stockholders who do not satisfy the requirements for demanding appraisal under NRS 92A.480 shall be deemed to have accepted the subject corporation s offer.

3. Within 10 days after receiving the stockholder s acceptance pursuant to subsection 2, the subject corporation shall pay in cash the amount offered under paragraph (b) of subsection 2 to each stockholder who agreed to accept the subject corporation s offer in full satisfaction of the stockholder s demand.

4. Within 40 days after sending the notice described in subsection 2, the subject corporation shall pay in cash the amount offered under paragraph (b) of subsection 2 to each stockholder described in paragraph (e) of subsection 2.

(Added to NRS by 1995, 2091; A 2009, 1725; 2013, 1287)

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NRS 92A.480 Dissenter s estimate of fair value: Notification of subject corporation; demand for payment of estimate.

1. A dissenter paid pursuant to NRS 92A.460 who is dissatisfied with the amount of the payment may notify the subject corporation in writing of the dissenter s own estimate of the fair value of his or her shares and the amount of interest due, and demand payment of such estimate, less any payment pursuant to NRS 92A.460. A dissenter offered payment pursuant to NRS 92A.470 who is dissatisfied with the offer may reject the offer pursuant to NRS 92A.470 and demand payment of the fair value of his or her shares and interest due.

2. A dissenter waives the right to demand payment pursuant to this section unless the dissenter notifies the subject corporation of his or her demand to be paid the dissenter s stated estimate of fair value plus interest under subsection 1 in writing within 30 days after receiving the subject corporation s payment or offer of payment under NRS 92A.460 or 92A.470 and is entitled only to the payment made or offered.

(Added to NRS by 1995, 2091; A 2009, 1726)

NRS 92A.490 Legal proceeding to determine fair value: Duties of subject corporation; powers of court; rights of dissenter.

1. If a demand for payment pursuant to NRS 92A.480 remains unsettled, the subject corporation shall commence a proceeding within 60 days after receiving the demand and petition the court to determine the fair value of the shares and accrued interest. If the subject corporation does not commence the proceeding within the 60-day period, it shall pay each dissenter whose demand remains unsettled the amount demanded by each dissenter pursuant to NRS 92A.480 plus interest.

2. A subject corporation shall commence the proceeding in the district court of the county where its principal office is located in this State. If the principal office of the subject corporation is not located in this State, the right to dissent arose from a merger, conversion or exchange and the principal office of the surviving entity, resulting entity or the entity whose shares were acquired, whichever is applicable, is located in this State, it shall commence the proceeding in the county where the principal office of the surviving entity, resulting entity or the entity whose shares were acquired is located. In all other cases, if the principal office of the subject corporation is not located in this State, the subject corporation shall commence the proceeding in the district court in the county in which the corporation s registered office is located.

3. The subject corporation shall make all dissenters, whether or not residents of Nevada, whose demands remain unsettled, parties to the proceeding as in an action against their shares. All parties must be served with a copy of the petition. Nonresidents may be served by registered or certified mail or by publication as provided by law.

4. The jurisdiction of the court in which the proceeding is commenced under subsection 2 is plenary and exclusive. The court may appoint one or more persons as appraisers to receive evidence and recommend a decision on the question of fair value. The appraisers have the powers described in the order appointing them, or any amendment thereto. The dissenters are entitled to the same discovery rights as parties in other civil proceedings.

5. Each dissenter who is made a party to the proceeding is entitled to a judgment:

(a) For the amount, if any, by which the court finds the fair value of the dissenter s shares, plus interest, exceeds the amount paid by the subject corporation; or

(b) For the fair value, plus accrued interest, of the dissenter s after-acquired shares for which the subject corporation elected to withhold payment pursuant to NRS 92A.470.

(Added to NRS by 1995, 2091; A 2007, 2705; 2009, 1727; 2011, 2815; 2013, 1288)

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NRS 92A.500 Assessment of costs and fees in certain legal proceedings.

1. The court in a proceeding to determine fair value shall determine all of the costs of the proceeding, including the reasonable compensation and expenses of any appraisers appointed by the court. The court shall assess the costs against the subject corporation, except that the court may assess costs against all or some of the dissenters, in amounts the court finds equitable, to the extent the court finds the dissenters acted arbitrarily, vexatiously or not in good faith in demanding payment.

2. The court may also assess the fees and expenses of the counsel and experts for the respective parties, in amounts the court finds equitable:

(a) Against the subject corporation and in favor of all dissenters if the court finds the subject corporation did not substantially comply with the requirements of NRS 92A.300 to 92A.500, inclusive; or

(b) Against either the subject corporation or a dissenter in favor of any other party, if the court finds that the party against whom the fees and expenses are assessed acted arbitrarily, vexatiously or not in good faith with respect to the rights provided by NRS 92A.300 to 92A.500, inclusive.

3. If the court finds that the services of counsel for any dissenter were of substantial benefit to other dissenters similarly situated, and that the fees for those services should not be assessed against the subject corporation, the court may award to those counsel reasonable fees to be paid out of the amounts awarded to the dissenters who were benefited.

4. In a proceeding commenced pursuant to NRS 92A.460, the court may assess the costs against the subject corporation, except that the court may assess costs against all or some of the dissenters who are parties to the proceeding, in amounts the court finds equitable, to the extent the court finds that such parties did not act in good faith in instituting the proceeding.

5. To the extent the subject corporation fails to make a required payment pursuant to NRS 92A.460, 92A.470 or 92A.480, the dissenter may bring a cause of action directly for the amount owed and, to the extent the dissenter prevails, is entitled to recover all expenses of the suit.

6. This section does not preclude any party in a proceeding commenced pursuant to NRS 92A.460 or 92A.490 from applying the provisions of N.R.C.P. 68 or NRS 17.115.

(Added to NRS by 1995, 2092; A 2009, 1727)

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Annex C

December 18, 2013

Board of Directors

Medistem Inc.

9255 Towne Center Drive

Suite 450

San Diego, CA 92121

Members of the Board of Directors:

You have requested our opinion as to the fairness, from a financial point of view, to the holders of common stock, par value $0.0001 per share, of Medistem Inc., a Nevada corporation (the Company), of the consideration (the Consideration) to be received by such holders in the proposed merger (the Transaction) of the Company with a wholly-owned subsidiary of Intrexon Corporation, a Virginia corporation (Intrexon). Pursuant to the terms and conditions set forth in an Agreement and Plan of Merger (the Agreement) relating to the Transaction, the Consideration for each share of common stock of the Company outstanding immediately prior to the effective time of the Transaction will consist of (i) $0.27 in cash and (ii) a number of shares of Intrexon common stock determined by dividing $1.08 by the volume-weighted average price for a share of Intrexon common stock, no par value, on the New York Stock Exchange for 20 consecutive trading days immediately preceding the last trading day prior to the effective date of the Transaction.

In arriving at the opinion set forth below, we have, among other things:

(1) Reviewed certain publicly-available business and financial information relating to the Company and its common stock that we deemed to be relevant;

(2) Reviewed certain information, including financial forecasts, relating to the business, earnings, cash flow, assets, liabilities, and prospects of the Company furnished to us by or on behalf of the Company;

(3) Reviewed certain publicly-available business and financial information relating to Intrexon and its common stock that we deemed to be relevant;

(4) Conducted discussions with members of senior management and representatives of the Company concerning the matters described in clauses (1), (2) and (3) above;

(5)

Compared information described in clauses (1), (2) and (3) above with that of certain companies and transactions that we deemed to be relevant and also reviewed the market prices and valuation multiples of publicly-traded companies and publicly-announced transactions;

(6) Reviewed a draft dated December 18, 2013, of the Agreement; and

(7) Reviewed such other financial studies and analyses and took into account such other matters as we deemed necessary, including our assessment of general economic, market, and monetary conditions.

In preparing our opinion, we have assumed and relied on the accuracy and completeness of all information supplied or otherwise made available to us, discussed with or reviewed by or for us, or publicly-available, and we have not assumed any responsibility for independently verifying, and have not independently verified, any such information or undertaken an independent evaluation or appraisal of any of the assets or liabilities of the Company or Intrexon or been furnished with any such evaluation or appraisal, nor have we evaluated the solvency or fair value of the Company or Intrexon under any state or federal laws relating to bankruptcy, insolvency, or similar matters. In addition, we have not assumed any obligations to conduct any physical inspection of the properties or facilities of the Company or Intrexon. With respect to the financial forecast information furnished to or discussed with us by or on behalf of the Company, we have assumed, without any independent evaluation or verification, that they have been reasonably prepared and reflect the best currently

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available estimates and judgments of the Company s management as to expected future financial performance. We have assumed that the final form of the Agreement and substantive terms thereof relating to the Transaction will be substantially similar to the draft reviewed by us.

Our opinion is necessarily based upon economic, market, and other conditions as they exist and can be evaluated on, and on the information made available to us, as of the date hereof. Circumstances, developments, or events occurring after the date hereof may affect this opinion, and we do not have any obligation to update, revise, or reaffirm this opinion.

We will receive a fee from the Company for our services in connection with rendering this opinion, a portion of which was paid upon our engagement by the Company and the balance will become payable upon delivery of this opinion to the Board of Directors of the Company, which is not contingent upon the consummation of the Transaction. The Company has also agreed to reimburse our expenses in connection with our engagement and to indemnify us for certain liabilities that may arise out of our engagement.

Please be advised that during the two years preceding the date of this letter, we have not had any investment banking or financial services relationships with the Company. During the two years preceding the date of this letter, we have performed financial advisory and investment banking services for Intrexon for which we received compensation. Such services consisted of: acting as financial advisor relating to exclusive channel collaborations with unaffiliated entities; soliciting agent for mandatory cash tender offer to shareholders of an unaffiliated entity; financial advisor in connection with private placement of Intrexon securities; and co-manager of underwritten registered offering of Intrexon common stock. We may provide investment banking and/or financial services to the Company or Intrexon in the future and may receive fees for the rendering of such services.

This opinion is for the use of the Board of Directors of the Company. Our opinion does not address the merits of the underlying decision by the Company to engage in or any other business decisions with respect to the Transaction and does not constitute a recommendation to the Company or any shareholder. In addition, you have not asked us to address, and this opinion does not address, the fairness to, or any other consideration of, the holders of any class of securities, creditors, or other constituencies of the Company, other than the holders of the Company s common stock. In rendering this opinion, we express no view or opinion with respect to the fairness (financial or otherwise) of the amount or nature or any aspect of any compensation payable or to be received by any officers, directors, or employees of any parties to the Transaction, or any class of such persons, relative to the Consideration. Our opinion has not been approved or issued by a fairness committee of Griffin Securities, Inc.

On the basis of and subject to the foregoing, we are of the opinion that, as of the date hereof, the Consideration to be received by the holders of common stock of the Company in connection with the Transaction is fair, from a financial point of view, to such holders.

Very truly yours,

GRIFFIN SECURITIES, INC.

By /s/ Adrian Stecyk
Chief Executive Officer

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Annex D

VOTING AGREEMENT

THIS VOTING AGREEMENT (this Agreement), dated as of December 19, 2013, is made by and among Intrexon Corporation, a Virginia corporation (Parent), Medistem Inc., a Nevada corporation (the Company), and the undersigned holder (Stockholder) of shares of capital stock (the shares owned beneficially or of record by Stockholder, the Shares) of the Company.

WHEREAS, Parent, XON Cells, Inc., a Nevada corporation and a wholly owned subsidiary of Parent (Merger Sub), and the Company have entered into an Agreement and Plan of Merger, dated of even date herewith (the Merger Agreement), providing for the merger of Merger Sub with and into Company (the Merger);

WHEREAS, as of the date hereof, Stockholder beneficially owns and has sole or shared voting power with respect to the number of Shares, and holds stock options or other rights to acquire the number of Shares indicated opposite Stockholder s name on Schedule 1 attached hereto;

WHEREAS, as an inducement and a condition to the willingness of Parent and Merger Sub to enter into the Merger Agreement, and in consideration of the substantial expenses incurred and to be incurred by them in connection therewith, Stockholder has agreed to enter into and perform this Agreement; and

WHEREAS, all capitalized terms used in this Agreement without definition herein shall have the meanings ascribed to them in the Merger Agreement.

NOW, THEREFORE, in consideration of, and as a condition to, Parent and Merger Sub entering into the Merger Agreement and proceeding with the transactions contemplated thereby, and in consideration of the expenses incurred and to be incurred by them in connection therewith, Stockholder, Parent and the Company agree as follows:

1. Agreement to Vote Shares. Subject to the terms and conditions hereof, Stockholder agrees that, from and after the date hereof until the Expiration Date (as defined in Section 2 below), at any meeting of the stockholders of the Company or any adjournment or postponement thereof, or in connection with any written consent of the stockholders of Company, with respect to the Merger, the Merger Agreement or any Acquisition Proposal, Stockholder shall:

(a) appear at such meeting or otherwise cause the Shares and any New Shares (as defined in Section 3 below) to be counted as present thereat for purposes of calculating a quorum;

(b) vote (or cause to be voted), or deliver a written consent (or cause a written consent to be delivered) covering all of the Shares: (i) in favor of adoption and approval of the Merger Agreement and all other transactions contemplated by the Merger Agreement as to which stockholders of the Company are called upon to vote in favor of or consent to any matter necessary for consummation of the Merger and other transactions contemplated by the Merger Agreement; and (ii) against any Acquisition Proposal; and

(c) vote (or cause to be voted), or deliver a written consent (or cause a written consent to be delivered) covering all of the Shares against any of the following actions (other than those actions that relate to the Merger and any other transactions contemplated by the Merger Agreement): (i) any merger, consolidation, business combination, sale of assets, or reorganization of the Company or any subsidiary (as defined in the Merger Agreement) of the Company, (ii) any sale, lease or transfer of all or substantially all of the assets of the Company or any subsidiary of the Company, (iii) any reorganization, recapitalization, dissolution, liquidation or winding up of the Company or any subsidiary of

the Company, (iv) any material change in the capitalization of the Company or any subsidiary of the Company, or the corporate structure of the Company or any subsidiary of the Company, or (v) any other action that is intended, or would reasonably be expected to, impede, interfere with, delay, postpone, or materially and adversely affect the Merger or any other transactions contemplated by the Merger Agreement.

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2. Expiration Date. As used in this Agreement, the term Expiration Date shall mean the earlier to occur of (a) the Effective Time, (b) such date and time as the Merger Agreement shall be terminated pursuant to Article 7 thereof or otherwise, (c) such time as the Company enters into a competing bid with any Excluded Party in accordance with Section 5.7 of the Merger Agreement, or such other time as the Company Board changes, withholds, withdraws, qualifies or modifies the Company Recommendation or otherwise approves an Alternative Acquisition Agreement, or (d) upon mutual written agreement of the parties to terminate this Agreement. Upon termination or expiration of this Agreement, no party shall have any further obligations or liabilities under this Agreement; *provided*, *however*, such termination or expiration shall not relieve any party from liability for any willful breach of this Agreement or acts of bad faith prior to termination hereof.

3. Additional Purchases. Stockholder agrees that any shares of capital stock or other equity securities of the Company that Stockholder purchases or with respect to which Stockholder otherwise acquires sole or shared voting power after the execution of this Agreement and prior to the record date for determining the Company stockholders entitled to vote with respect to the Merger, whether by the exercise of any stock options or otherwise (collectively, New Shares), shall be subject to the terms and conditions of this Agreement to the same extent as if they constituted the Shares hereunder.

4. Agreement to Retain Shares.

(a) From and after the date hereof until the Expiration Date, Stockholder shall not, directly or indirectly, (i) cause or permit the Transfer (as defined below) of any of the Shares of which Stockholder is the beneficial owner (A) unless each person (as defined in the Merger Agreement) to which any of such Shares, or any interest in any of such Shares, is or may be transferred shall have (1) executed a counterpart of this Agreement and (2) agreed in writing to hold such Shares (or interest in such Shares) subject to all of the terms and provisions of this Agreement, (B) except by will or operation of law, in which case this Agreement shall bind the transferee, or (C) as Parent may otherwise agree in writing in its sole discretion, (ii) grant any proxies or powers of attorney, other than consistently with the terms of Section 1 of this Agreement, or deposit any Shares into a voting trust or enter into a voting agreement with respect to any Shares, or (iii) take any action that would make any representation or warranty of Stockholder contained herein untrue or incorrect in any material respect or have the effect of preventing or disabling Stockholder from performing Stockholder s material obligations under this Agreement.

(b) A person shall be deemed to have effected a Transfer of a Share if such person directly or indirectly (i) sells, pledges, encumbers, assigns, grants an option with respect to, transfers or disposes of such Share or any interest in such Share, or (ii) enters into an agreement or commitment providing for the sale of, pledge of, encumbrance of, assignment of, grant of an option with respect to, transfer of or disposition of such Share or any interest therein.

5. Representations and Warranties of Stockholder. Stockholder hereby represents and warrants to Parent and the Company as follows:

(a) Stockholder has the full power and authority to execute and deliver this Agreement and to perform Stockholder s obligations hereunder;

(b) this Agreement has been duly executed and delivered by or on behalf of Stockholder and, assuming this Agreement constitutes a valid and binding agreement of Parent and the Company, constitutes a valid and binding agreement with respect to Stockholder, enforceable against Stockholder in accordance with its terms, except as enforcement may be limited by general principles of equity whether applied in a court of law or a court of equity and by bankruptcy, insolvency and similar laws affecting creditors rights and remedies generally;

(c) except as otherwise set forth on Schedule 1 attached hereto, as of the date hereof, Stockholder beneficially owns the number of Shares indicated opposite such Stockholder s name on Schedule 1 attached

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hereto, and will own any New Shares, free and clear of any liens, claims, security interests, pledges or other encumbrances or restrictions of any kind or nature whatsoever (Liens) except for any restrictions under applicable securities laws, and has sole or shared, and otherwise unrestricted, voting power with respect to such Shares or New Shares and none of the Shares or New Shares is or will be subject to any voting trust or other agreement, arrangement or restriction with respect to the voting of the Shares or the New Shares, except as contemplated by this Agreement;

(d) the execution and delivery of this Agreement by Stockholder does not, and the performance by Stockholder of his, her or its obligations hereunder and the compliance by Stockholder with any provisions hereof will not: (i) violate or conflict with, result in a material breach of or constitute a material default (or an event that with notice or lapse of time or both would become a material default) under, or give to others any rights of termination, amendment, acceleration or cancellation of, or result in the creation of any Liens on any Shares or New Shares pursuant to, any agreement, instrument, note, bond, mortgage, contract, lease, license, permit or other obligation or any order, arbitration award, judgment or decree to which Stockholder is a party or by which Stockholder is bound, or any law, statute, rule or regulation to which Stockholder is subject, except for such violations, conflicts, breaches, defaults, rights, Liens or other occurrences as would not materially impair the ability of Stockholder to perform its obligations under this Agreement or prevent or materially delay the consummation of any of the actions contemplated hereby, or (ii) in the event that Stockholder is a corporation, partnership, trust or other entity, any bylaw or other organizational document of Stockholder;

(e) the execution and delivery of this Agreement by Stockholder does not, and the performance of this Agreement by Stockholder does not and will not, require any consent, approval, authorization or permit of, or filing with or notification to, any governmental or regulatory authority by Stockholder except for applicable requirements, if any, of the Exchange Act, and except where the failure to obtain such consents, approvals, authorizations or permits, or to make such filings or notifications, would not prevent or delay the performance by Stockholder of his, her or its obligations under this Agreement in any material respect;

(f) as of the date hereof, there is no action pending or, to the knowledge of the Stockholder, threatened against or affecting the Stockholder before or by any Governmental Entity that would reasonably be expected to impair in any material respect the ability of the Stockholder to perform its obligations hereunder or to consummate the transactions contemplated hereby on a timely basis; and

(g) the Stockholder understands and acknowledges that Parent and Merger Sub are entering into the Merger Agreement in reliance upon the Stockholder s execution and delivery of this Agreement and the representations and warranties of the Stockholder contained herein, and such Stockholder understands and acknowledges that the Merger Agreement governs the terms of the Merger and the other transactions contemplated thereby.

6. Irrevocable Proxy. Subject to the penultimate sentence of this Section 6, by execution of this Agreement, Stockholder does hereby appoint Parent with full power of substitution and resubstitution, as Stockholder s true and lawful attorney and irrevocable proxy, to the fullest extent of the undersigned s rights with respect to the Shares, to vote, if the Stockholder is unable to perform his, her or its obligations under this Agreement, each of such Shares solely with respect to the matters set forth in Section 1 hereof. Stockholder intends this proxy to be irrevocable and coupled with an interest hereunder until the Expiration Date. Notwithstanding anything contained herein to the contrary, this irrevocable proxy shall automatically terminate upon the Expiration Date of this Agreement. The Stockholder hereby revokes any proxy previously granted by Stockholder with respect to the Shares and/or the New Shares and represents that none of such previously granted proxies are irrevocable.

7. Waiver of Appraisal Rights. Each Stockholder hereby irrevocably waives any and all rights he or it may have as to appraisal, dissent or any similar or related matter with respect to any of such Stockholder s Shares that may arise with

respect to the Merger or any of the transactions contemplated by the Merger Agreement, including, without limitation, under Chapter 92A of the Nevada Revised Statutes.

8. No Solicitation. From and after the No-Shop Period Start Date, Stockholder, insofar as such Stockholder is acting in his, her or its capacity as a Stockholder, shall not (a) initiate, solicit, seek or knowingly encourage or support any inquiries, proposals or offers that constitute or may reasonably be expected to lead to, an Acquisition Proposal, (b) engage or participate in, or facilitate, any discussions or negotiations regarding, or furnish any nonpublic information to any person in connection with, any inquiries, proposals or offers that constitute, or may reasonably be expected to lead to, an Acquisition Proposal, (c) enter into any letter of intent, agreement in principle or other similar type of agreement relating to an Acquisition Proposal, or enter into any agreement or agreement in principle requiring the Company to abandon, terminate or fail to consummate the transactions contemplated hereby, (d) initiate a stockholders vote or action by consent of the Company s stockholders with respect to an Acquisition Proposal, (e) except by reason of this Agreement, become a member of a group (within the meaning of Section 13(d) of the Exchange Act) with respect to any voting securities of the Company that takes any action in support of an Acquisition Proposal, or (f) propose or agree to do any of the foregoing. In the event that Stockholder is a corporation, partnership, trust or other entity, it shall not permit any of its subsidiaries or affiliates (as defined in the Merger Agreement) to, nor shall it authorize any officer, director or representative of Stockholder, or any of its subsidiaries or affiliates to, undertake any of the actions contemplated by this Section 8. Nothing in this Section 8 shall restrict any actions permitted under the Merger Agreement by any Stockholder in his, her or its capacity as an officer or director of Company.

9. Stockholder Capacity. Stockholder is entering into this Agreement solely in its capacity as a record holder and/or beneficial owner of Shares and nothing in this Agreement shall be deemed to impose any obligation, restriction, limitation or liability on Stockholder in any other manner or capacity, including in his, her or its capacity as an officer, director, employee, agent or representative of the Company.

10. Specific Enforcement. The parties hereto agree that irreparable damage would occur in the event any provision of this Agreement was not performed in accordance with the terms hereof or was otherwise breached. It is accordingly agreed that the parties shall be entitled to seek specific relief hereunder, including, without limitation, an injunction or injunctions to prevent and enjoin breaches of the provisions of this Agreement and to enforce specifically the terms and provisions hereof, in any state or federal court in any competent jurisdiction, in addition to any other remedy to which they may be entitled at law or in equity. Any requirements for the securing or posting of any bond with respect to any such remedy are hereby waived.

11. Further Assurances. Stockholder shall, from time to time, execute and deliver, or cause to be executed and delivered, such additional or further consents, documents and other instruments as Parent or the Company may reasonably request for the purpose of carrying out the transactions contemplated by this Agreement and the Merger Agreement.

12. Disclosure. Stockholder hereby agrees that Parent and the Company may publish and disclose in the Registration Statement (including all documents and schedules filed with the SEC), the Proxy Statement, any prospectus filed with any regulatory authority in connection with the Merger and any related documents filed with such regulatory authority and as otherwise required by Law, such Stockholder s identity and ownership of Shares and the nature of such Stockholder s commitments, arrangements and understandings under this Agreement and may further file this Agreement as an exhibit to the Registration Statement or prospectus or in any other filing made by Parent or Company as required by Law or the terms of the Merger Agreement, including with the SEC or other regulatory authority, relating to the Merger, all subject to prior review and an opportunity to comment by Stockholder s counsel.

13. Notice. All notices and other communications hereunder shall be in writing and shall be deemed given when delivered in person or upon confirmation of receipt when transmitted by facsimile transmission or by electronic mail (but only if followed by transmittal by national overnight courier or for hand delivery on the next Business Day) or on

receipt after dispatch by registered or certified mail, postage prepaid, to Parent or the Company, as the case may be, at the addresses set forth in Section 8.3 of the Merger Agreement and to each Stockholder at its address set forth on Schedule 1 attached hereto (or at such other address for a party as shall be specified by like notice).

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14. Severability. If any term or other provision of this Agreement is determined to be invalid, illegal or incapable of being enforced by any rule of Law or public policy, all other conditions and provisions of this Agreement shall nevertheless remain in full force and effect so long as the economic or legal substance of the transactions contemplated hereby is not affected in any manner materially adverse to any party. Upon a final determination that any term or other provision is invalid, illegal or incapable of being enforced, the parties hereto shall negotiate in good faith to modify this Agreement so as to effect the original intent of the parties as closely as possible to the fullest extent permitted by applicable Law in an acceptable manner to the end that the transactions contemplated hereby are fulfilled to the extent possible and the parties agree that the court making such determination shall have the power to reduce the scope, duration, area or applicability of the term or provision, to delete specific words or phrases, or to replace any invalid, void or unenforceable term or provision with a term or provision that is valid and enforceable and that comes closest to expressing the intention of the invalid or unenforceable term or provision.

15. Binding Effect and Assignment. All of the covenants and agreements contained in this Agreement shall be binding upon, and inure to the benefit of, the respective parties and their permitted successors, assigns, heirs, executors, administrators and other legal representatives, as the case may be. This Agreement may not be assigned by any party hereto without the prior written consent of the other parties hereto.

16. No Third Party Beneficiaries. This Agreement is not intended, and shall not be deemed, to confer any rights or remedies upon any person other than the parties hereto and their respective successors and permitted assigns, to create any agreement of employment with any person or to otherwise create any third-party beneficiary hereto.

17. No Waivers. No waivers of any breach of this Agreement extended by Parent or the Company to Stockholder shall be construed as a waiver of any rights or remedies of Parent or the Company, as applicable, with respect to any other stockholder of Company who has executed an agreement substantially in the form of this Agreement with respect to Shares held or subsequently held by such stockholder or with respect to any subsequent breach of the Stockholder or any other such stockholder of the Company. No waiver of any provisions hereof by any party shall be deemed a waiver of any other provisions hereof by any such party, nor shall any such waiver be deemed a continuing waiver of any provision hereof by such party.

18. Governing Law; Jurisdiction and Venue. THIS AGREEMENT IS MADE UNDER, AND SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK APPLICABLE TO AGREEMENTS MADE AND TO BE PERFORMED SOLELY THEREIN, WITHOUT GIVING EFFECT TO PRINCIPLES OF CONFLICTS OF LAW. In any action between or among any of the parties, whether arising out of this Agreement or otherwise, (a) each of the parties irrevocably and unconditionally consents and submits to the exclusive jurisdiction of the United States District Court for the Southern District of the State of New York, or if such court declines to accept jurisdiction, any federal or state court within the State of New York, and, in each case, any appellate court thereof; (b) each of the parties irrevocably waives the right to trial by jury; and (c) each of the parties irrevocably consents to service of process by first class certified mail, return receipt requested, postage prepared, to the address at which such party is to receive notice in accordance with Section 13.

19. Waiver of Jury Trial. The parties hereto hereby waive any right to trial by jury with respect to any action or proceeding related to or arising out of this Agreement, any document executed in connection herewith and the matters contemplated hereby and thereby.

20. No Agreement Until Executed. Irrespective of negotiations among the parties or the exchanging of drafts of this Agreement, this Agreement shall not constitute or be deemed to evidence a contract, agreement, arrangement or understanding between the parties hereto unless and until (a) the Board of Directors of the Company has approved, for purposes of any applicable anti-takeover laws and regulations and any applicable

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provision of the Company s Articles of Incorporation, the transactions contemplated by the Merger Agreement, (b) the Merger Agreement is executed by all parties thereto, and (c) this Agreement is executed by all parties hereto.

21. Entire Agreement; Amendment. This Agreement supersedes all prior agreements, written or oral, among the parties hereto with respect to the subject matter hereof and contains the entire agreement among the parties with respect to the subject matter hereof. This Agreement may not be amended, supplemented or modified, and no provisions hereof may be modified or waived, except by an instrument in writing signed by each party hereto.

22. Effect of Headings. The section headings herein are for convenience only and shall not affect the construction of interpretation of this Agreement.

23. Definition of Merger Agreement. For purposes of this Agreement, the term Merger Agreement includes such agreement as it shall be amended or modified from time to time.

24. Counterparts. This Agreement may be executed in one or more counterparts, and by the different parties hereto in separate counterparts, each of which when executed shall be deemed to be an original but all of which taken together shall constitute one and the same agreement.

{Signature Page to Follow}

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EXECUTED as of the date first above written.

STOCKHOLDER

/s/ Alan J. Lewis

Name: Alan J. Lewis, Ph. D.

STOCKHOLDER

/s/ Thomas E. Ichim

Name: Thomas E. Ichim, Ph.D.

STOCKHOLDER

/s/ John P. Salvador

Name: John P. Salvador, J.D.

STOCKHOLDER

/s/ Donald F. Dickerson

Name: Donald F. Dickerson

STOCKHOLDER

/s/ Vladimir Bogin

Name: Vladimir Bogin, M.D.

STOCKHOLDER

/s/ Vladimir Zaharchook-Williams

Name: Vladimir Zaharchook-Williams

STOCKHOLDER

/s/ Sergey Sablin

Name: Sergey Sablin

STOCKHOLDER

/s/ John Chiplin

Name: John Chiplin, Ph.D.

STOCKHOLDER

/s/ Herm Rosenman

Name: Herm Rosenman

INTREXON CORPORATION

/s/ Randal J. Kirk

Name: Randal J. Kirk

Title: Chief Executive Officer

MEDISTEM INC.

/s/ Alan J. Lewis

Name: Alan J. Lewis, Ph. D.

Title: Chief Executive Officer

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Schedule 1

Name	Shares Owned:	Options and Warrants Held:

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Annex E

PROXY CARD

Electronic Voting Instructions

Available 24 hours a day, 7 days a week!

Instead of mailing your proxy, you may choose one of the voting methods outlined below to vote your proxy.

VALIDATION DETAILS ARE LOCATED BELOW IN THE TITLE BAR.

Proxies submitted by the Internet or telephone must be received by 11:59 p.m., Eastern Time, on March 3, 2014.
Vote by Internet

Go to www.proxyvote.com

Have your proxy card in hand when you access the web site and follow the instructions to obtain your records and create an electronic voting instruction form.

Vote by telephone

Call toll free 1-800-690-6903 within the USA, US territories & Canada on a touch tone telephone

Follow the instructions provided by the recorded message and have your proxy card in hand when you call

Using a **black ink** pen, mark your votes with an **X** as shown in this example. Please do not write outside the designated areas. ¨

Special Meeting Proxy Card

¨ **IF YOU HAVE NOT VOTED VIA THE INTERNET OR TELEPHONE, FOLD ALONG THE PERFORATION, DETACH**

AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE. ¨

A Proposals The Board of Directors recommends a vote FOR Proposals 1, 2 and 3.

		For	Against	Abstain
1.	Proposal to adopt and approve the Agreement and Plan of Merger, dated as of December 19, 2013 by and among Medistem, Intrexon Corporation, and XON Cells, Inc., as amended (Merger Agreement).	¨	¨	¨
2.	Proposal to approve, on a non-binding, advisory basis, the compensation payable to the Medistem Inc. s named executive officers that is based on or otherwise relates to the merger.	¨	¨	¨
3.	Proposal to adjourn the special meeting to solicit additional proxies in favor of the proposal to adopt and approve the merger agreement if there are not sufficient votes at the time of such adjournment to approved the Merger Agreement.	¨	¨	¨

+

B Non-Voting Items

Change of Address Please print your new address below.

Comments Please print your comments below.

Meeting Attendance
Mark the box to the right if you plan to attend the Special Meeting. ¨

C Authorized Signatures This section must be completed for your vote to be counted. Date and Sign Below

NOTE: Please sign as name appears hereon. Joint owners should each sign. When signing as attorney, executor, administrator, trustee or guardian, please give full title as such.

Date (mm/dd/yyyy) Please print date below.	Signature 1 Please keep signature within the box.	Signature 2 Please keep signature within the box.

/ /

¨ 1UPX +

01OBOD

PROXY CARD

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Important notice regarding the Internet availability of proxy materials for the Special Meeting of Shareholders.

The Notice of Special Meeting of Shareholders and Proxy Statement/Prospectus are available at:

http://www.rrdezproxy.com/2014/MEDS

¨ IF YOU HAVE NOT VOTED VIA THE INTERNET OR TELEPHONE, FOLD ALONG THE PERFORATION, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE. ¨

Proxy Medistem Inc.

MEDISTEM INC.

9255 Towne Centre Drive, #450, San Diego, CA 92121

SPECIAL MEETING OF SHAREHOLDERS, MARCH 4, 2014

THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS OF MEDISTEM INC.

The undersigned revokes all previous proxies, acknowledges receipt of the Notice of the Special Meeting of Shareholders to be held March 4, 2014 and the Proxy Statement/Prospectus related thereto, and appoints Alan J. Lewis, Ph.D. and John P. Salvador, and each of them (with full power to act alone), the proxy of the undersigned, with full power of substitution, to vote all shares of Common Stock of Medistem Inc. (the Company) which the undersigned is entitled to vote, either on his or her own behalf or on behalf of an entity or entities, at the Special Meeting of Shareholders of the Company to be held on March 4, 2014 at 9:00 a.m., or at any adjournments, continuations or postponements thereof, with the same force and effect as if the undersigned were personally present and voting. The proxies are authorized to vote upon the proposals on the reverse side and, in their discretion, upon all other matters that may properly come before the Special Meeting of Shareholders.

In giving this Proxy, I understand that I may personally vote my shares if I attend the Special Meeting of Shareholders, not withstanding that I have previously executed and returned the Proxy to the Company.

The board of directors unanimously recommends a vote FOR items 1, 2, and 3 described on the reverse side. This Proxy, when properly executed, will be voted in the manner directed herein. If no directions are given, the shares represented by this Proxy will be voted in accordance with the recommendations of the board of directors on all the proposals referred to on the reverse side and in accordance with the discretion of the

persons named as proxies herein on any other matters that may properly come before the Special Meeting of Shareholders.

(Continued and to be marked, dated and signed, on the other side)