FLUIDIGM CORP
Form S-1
December 03, 2010
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As filed with the Securities and Exchange Commission on December 3, 2010

Registration No. 333-

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-1

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

FLUIDIGM CORPORATION

(Exact name of registrant as specified in its charter)

Delaware	**3826**	**77-0513190**
(State or other jurisdiction of incorporation or organization)	**(Primary Standard Industrial Classification Code Number)**	**(I.R.S. Employer Identification Number)**

7000 Shoreline Court, Suite 100

South San Francisco, CA 94080

(650) 266-6000

(Address, including ZIP code, and telephone number, including area code, of registrant s principal executive offices)

Gajus V. Worthington

President and Chief Executive Officer

7000 Shoreline Court, Suite 100

South San Francisco, CA 94080

(650) 266-6000

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

David J. Segre	**William M. Smith**	**Charles K. Ruck**
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Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this Registration Statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act, as amended, check the following box. ¨

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ¨

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ¨

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ¨

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ¨	Accelerated filer ¨
Non-accelerated filer x (Do not check if a smaller reporting company)	Smaller reporting company ¨

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Proposed Maximum Aggregate Offering Price(1)	Amount of Registration Fee(2)
Common Stock $0.0035 par value	$86,250,000	$6,149.63

(1) Estimated solely for the purpose of computing the amount of the registration fee pursuant to Rule 457(o) under the Securities Act.
(2) Calculated pursuant to Rule 457(o) under the Securities Act based on an estimate of the proposed maximum offering price.

The registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment that specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to such Section 8(a), may determine.

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The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is declared effective. This preliminary prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

Subject to Completion, Dated December 3, 2010

Shares

Common Stock

This is the initial public offering of Fluidigm Corporation. We are offering shares of our common stock. We anticipate that the initial public offering price will be between $ and $ per share. We intend to list our common stock on The NASDAQ Global Market under the symbol FLDM.

Investing in our common stock involves risks. See Risk Factors beginning on page 10.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

	Per Share $	Total $
Public offering price	$	$
Underwriting discounts and commissions	$	$
Proceeds, before expenses, to Fluidigm Corporation	$	$

We have granted the underwriters the right to purchase up to additional shares of common stock to cover over-allotments.

Deutsche Bank Securities **Piper Jaffray**

The date of this prospectus is , 2011

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You should rely only on the information contained in this prospectus and in any free writing prospectus prepared by or on behalf of us. We have not, and the underwriters have not, authorized anyone to provide you with information different from, or in addition to, that contained in this prospectus or any related free writing prospectus. This prospectus is an offer to sell only the shares offered hereby but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus is current only as of its date.

Dealer Prospectus Delivery Obligation

Through and including , 2011 (the 25th day after the date of this prospectus), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to a dealer s obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.

For investors outside the United States: Neither we nor any of the underwriters have done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than the United States. You are required to inform yourselves about and to observe any restrictions relating to this offering and the distribution of this prospectus.

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PROSPECTUS SUMMARY

This summary highlights information contained in greater detail elsewhere in this prospectus. This summary may not contain all the information that you should consider before investing in our common stock. You should read the entire prospectus carefully, including Risk Factors beginning on page 10 and our consolidated financial statements and related notes included elsewhere in this prospectus, before making an investment decision. Unless otherwise indicated, the terms Fluidigm, we, us and our refer to Fluidigm Corporation.

Fluidigm Corporation

Overview

We develop, manufacture and market microfluidic systems for growth markets in the life science and agricultural biotechnology, or Ag-Bio, industries. Our proprietary microfluidic systems consist of instruments and consumables, including chips and reagents. These systems are designed to significantly simplify experimental workflow, increase throughput and reduce costs, while providing the excellent data quality demanded by customers. In addition, our proprietary technology enables genetic analysis that in many instances was previously impractical. We actively market three microfluidic systems including eight different commercial chips to leading pharmaceutical and biotechnology companies, academic institutions, diagnostic laboratories and Ag-Bio companies. We have sold systems to over 200 customers in over 20 countries worldwide.

To achieve and exploit advances in life science research, Ag-Bio and molecular diagnostics, laboratories need robust systems that deliver increased throughput and simpler workflows at decreased costs. Our microfluidic systems are designed to overcome many of the limitations of conventional laboratory systems by integrating an increasing number of fluidic components on a single microfabricated chip. Our technology enables our customers to perform and measure thousands of sophisticated biochemical reactions on samples smaller than the content of a single cell, while utilizing minute volumes of reagents and samples. Similarly, for next generation DNA sequencing, our systems enable rapid preparation of multiple samples in parallel at low cost.

We have successfully commercialized our BioMark and EP1 systems for genetic analysis and our Access Array system for next generation DNA sequencing sample preparation. We have grown our revenues from $6.4 million in 2006, to $25.4 million in 2009 and $23.2 million in the nine months ended September 30, 2010, during which time our product margin has increased from 30% in 2006, to 51% in 2009 and to 62% for the nine months ended September 30, 2010. Researchers and clinicians have successfully employed our products to help achieve breakthroughs in a variety of fields, including genetic variation, cellular function and structural biology. These include using our microfluidic systems to help detect life-threatening mutations in patients cancer cells, discover cancer associated biomarkers, analyze the genetic composition of individual stem cells, identify fetal chromosomal abnormalities and assess the quality of agricultural seed products. We believe our Access Array system resolves a critical workflow bottleneck that exists in all commercial next generation DNA sequencing platforms. We expect that the versatility of our microfluidic technology will enable us to develop additional applications across a wide variety of markets.

We attribute our success and continued growth prospects to the following:

Disruptive and Enabling Technology. Our microfluidic systems, which are broadly compatible with existing lab equipment and chemistries, enable users to perform 24 times more gene expression experiments than conventional microplate systems, at one time and in nanoliter volumes, delivering meaningful improvements in cost, capability, time and accuracy over conventional methods of laboratory and industrial research. In addition, our technology enables scientists to perform experiments that we believe are impractical using conventional systems, such as digital PCR experiments, where our systems enable users to perform 36,960 simultaneous reactions on a single chip.

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Commercially Validated High Margin Business Model. We have an installed base of over 250 instruments, which generate high margin recurring revenue from consumables, including chips and reagents. Our product margins are supported by our highly efficient manufacturing operations that are based in Singapore and take advantage of the skilled workforce, supplier and partner networks and government support available there.

Leadership Positions in Multiple High Growth Markets. We believe our microfluidic systems are well positioned to address numerous applications in the life science and Ag-Bio markets, including single cell genomics, digital PCR, agricultural genotyping and sample preparation for next generation DNA sequencing.

Significant Growth Opportunities in Additional Markets. Researchers have successfully used our microfluidic systems in such diverse fields as immunoassays, high throughput drug screening, chemical synthesis, pharmacogenomics, systems biology, synthetic biology, stem cell research, cell culture and cellular assays. Our proprietary technology is broadly applicable to biotechnology automation and could be further developed for a wide variety of additional applications, including molecular diagnostics. Through further expansion of our assay and reagent offerings, we intend to provide more comprehensive solutions across all of our target markets.

Strong Research and Development Capabilities and Intellectual Property Position. We are a pioneer in the development of microfluidic systems and have a demonstrated ability to advance systems from concept through commercialization. We have developed an extensive portfolio of intellectual property, including more than 110 issued U.S. patents and 220 patent applications pending worldwide either owned by or licensed to us.

Well-Published and Loyal Customer Base that Expands Market Awareness of our Products. Since January 2009, users of our systems have published over 60 peer-reviewed articles regarding experiments using our technology. We actively market our products to thought leaders in their respective fields and have found references from existing customers to be an important factor in marketing our solutions to prospective customers.

Our Target Markets

The current markets for our products include life science research and Ag-Bio. Total expenditures in the life science research and Ag-Bio markets described below are projected to exceed $4.3 billion by 2015. In addition, we are developing products for use in molecular diagnostics and other markets.

Life Science Research

Our primary area of focus within life science research is genomics, the study of genes and their functions. We are currently focused on the following applications:

Gene Expression Analysis. Measures the activity of genes to identify genetic variations that may correspond to predisposition of disease or response to therapeutics;

Genotyping. Determines DNA sequence variants across individual genomes to assess the correlation of specific genotypes to physical traits of interest;

Digital PCR. Discretely quantifies the amount of nucleic acid present in a sample, facilitating assays that require much greater precision than currently provided by conventional PCR techniques;

Single Cell Analysis. Performs gene expression analysis on single cells to further understand how biological systems operate at the cellular level; and

Sample Preparation for Next Generation DNA Sequencing. Isolates, amplifies and tags target molecules to simplify library preparation, increasing the efficiency of DNA sequencing platforms, for applications such as targeted resequencing.

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Agricultural Biotechnology

Industrial customers in Ag-Bio typically analyze the genomes of tens of thousands to hundreds of thousands of seeds or livestock annually in cost-sensitive production environments. Commercially viable genetic analysis tools in Ag-Bio must be inexpensive, easy to use and provide extremely high throughput.

Molecular Diagnostics

Molecular diagnostic tests are used in clinical practice to diagnose, classify or monitor a disease; determine a patient s susceptibility to a disease; or monitor a patient s response to therapy, by detecting one or more biomarkers in a patient sample. Within molecular diagnostics, our initial area of focus is in non-invasive prenatal diagnostics, or NIPD, for fetal aneuploidies, for which the most reliable diagnostic tests currently available are invasive and carry significant risks to the fetus. In collaboration with Novartis Vaccines & Diagnostics, Inc., or Novartis V&D, we are developing a microfluidic system to target this application.

The Fluidigm Solution

Our proprietary microfluidic systems are designed to significantly simplify experimental workflow, increase throughput, reduce costs, provide excellent data quality and in many instances enable genetic analysis that was previously impractical. Our microfluidic systems empower researchers and commercial customers to rapidly perform significantly more experiments or prepare significantly more samples all at one time and in nanoliter volumes with a combination of speed and accuracy that we believe cannot be achieved with other systems. Our systems deliver these advantages through the integration of sophisticated nanoliter fluid handling in an easy-to-use format that is compatible with most existing laboratory workflows and chemistries. Our systems are used in existing and emerging life science research and Ag-Bio markets, and we believe there are significant growth opportunities in additional markets.

We believe that our microfluidic systems have a number of compelling advantages over conventional microplate systems and other competing platforms including:

Data Quality. Our microfluidic systems provide exceptionally high quality data. In genotyping, our systems achieve greater than 99% call rate and call accuracy. For gene expression, our systems achieve 6 orders of magnitude of dynamic range with inter- and intra-chip reproducibility at correlation coefficients greater than 0.99.

Improved Throughput. Our base BioMark system can generate over 27,000 gene expression data points per day and high throughput configurations of our system can generate over 110,000 data points per day, with a time to first result measured in hours. Some competing systems may offer comparable data points per day, but may take up to a week for first results. Other systems offer comparable time to first result, but produce fewer data points per day, often with lower data quality. Our improved throughput reduces the time and cost associated with complex experiments and expands the number and range of experiments that may be conducted.

Ease of Use. Loading our 96.96 Dynamic Array chip requires 192 pipetting steps as compared to 18,432 steps required to load the number of 384 well microplates required for the same experiment. Difficulties encountered with some competing systems include manual sample loading and chip alignment that often results in lower throughput. We believe our microfluidic systems efficient workflow reduces time, cost and potential for error.

Flexibility. Our chips are built on input frames that are compatible with most commonly used laboratory systems, including existing robotic pipetting systems, bar code readers, plate handling systems and other equipment. Our chips are also designed to work with standard chemistries, including TaqMan and other reagents. In addition, our chips give researchers the flexibility to develop and load their own assays, unlike some competing products that can be used only to analyze specific genes or that are supplied pre-configured with fixed content.

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Nanoliter Precision. Our microfluidic systems allow users to dispense samples and reagents in microliter volumes which are automatically partitioned, combined or mixed in nanoliter and sub-nanoliter volumes. In addition to cost and workflow benefits, this capability makes it practical for users to conduct certain high sensitivity, low volume techniques, such as digital PCR and single cell analysis.

Cost Effectiveness. We believe our high throughput systems offer a compelling cost benefit for high volume users. Our systems consume reagents in nanoliter volumes, have the ability to conduct thousands of parallel experiments on one chip and offer customers the flexibility to use lower cost reagents as needed.

Products

We provide complete microfluidic systems consisting of instruments and consumables, including chips and reagents. Our systems are easily incorporated into our customers laboratory environments and analysis workflow. For example, our chips are the same size and shape as standard 384 microplates and other chip consumables, which facilitates the loading and handling of our chips by standard laboratory equipment. Each of our chips includes an elastomeric, or rubber-like, core that contains an extensive network of microfluidic components that deliver samples and reagents to thousands of nanoliter volume chambers where individual assays are performed. Our primary product offerings are summarized in the table below:

Product	Product Description	Applications
Instruments		
BioMark System	Real-time PCR instrument, bundled analysis software and chip loading platforms	Digital PCR, SNP Genotyping, Gene Expression
EP1 System	Real-time PCR instrument, bundled analysis software and chip loading platforms	Digital PCR, SNP Genotyping
Access Array System	Sample preparation system that facilitates parallel amplification of 48 unique samples	Next Generation DNA Sequencing
Consumables		
Dynamic Array Chips	Microfluidic chip based on matrix architecture, allowing users to generate up to 9,216 real-time qPCR reactions simultaneously	Real-time qPCR, SNP Genotyping, Gene Expression
Digital Array Chips	Microfluidic chip based on partitioning architecture, allowing users to divide 48 separate samples into 770 smaller samples	Digital PCR, Gene Expression, Copy Number Variation, Mutation Detection
Access Array Chips	Microfluidic chip that facilitates parallel amplification, barcoding and tagging of 48 unique samples	Next Generation DNA Sequencing
Multi-use Chips	Reusable microfluidic chip that can be used up to five times and is able to produce up to 11,520 genotypes over its lifespan	SNP Genotyping

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Strategy

We intend to continue growing as a global leader in providing microfluidic systems to the life science research and Ag-Bio markets. Our business strategy includes the following elements:

- Increase market penetration of our microfluidic systems;
- Increase recurring consumables revenue through instrument sales and product innovation;
- Provide assays and design services that leverage our system strengths in key application areas;
- Provide expanded offerings that complement and support our core technology offerings;
- Leverage our proprietary technology to address new markets;
- Provide superior customer service;
- Enhance chip manufacturing efficiency; and
- Continue to develop our technology and intellectual property position.

Risks Affecting Us

Our business is subject to numerous risks, as more fully described in the section entitled Risk Factors immediately following this prospectus summary, including the following:

- We have incurred losses since inception, and we expect to continue to incur substantial losses for the foreseeable future;
- If our products fail to achieve and sustain sufficient market acceptance, our revenue will be adversely affected;
- Our financial results may vary significantly from quarter-to-quarter due to a number of factors, which may lead to volatility in our stock price;
- Our future success is dependent upon our ability to expand our customer base and introduce new applications;
- The life science research and Ag-Bio markets are highly competitive and subject to rapid technological change, and we may not be able to successfully compete;

We need to expand our resources for marketing, selling and distributing our products and we may not be able to expand our direct sales and marketing force or distribution capabilities to adequately address our customers needs;

Our ability to protect our intellectual property and proprietary technology through patents and other means is uncertain; and

We may be involved in lawsuits to protect or enforce our patents and proprietary rights and to determine the scope, coverage and validity of others proprietary rights.

Corporate History and Information

We were incorporated in California in May 1999 as Mycometrix Corporation, changed our name to Fluidigm Corporation in April 2001 and reincorporated in Delaware in July 2007. Our principal executive offices

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are located at 7000 Shoreline Court, Suite 100, South San Francisco, California 94080. Our telephone number is (650) 266-6000. Our website address is www.fluidigm.com. Information contained on our website is not incorporated by reference into this prospectus, and should not be considered to be part of this prospectus.

Fluidigm, the Fluidigm logo, BioMark, Dynamic Array, Digital Array, Access Array, EP1, FC1, TOPAZ, FLUIDLINE, Autol NanoFlex are trademarks or registered trademarks of Fluidigm. Other service marks, trademarks and trade names referred to in this prospectus are the property of their respective owners.

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THE OFFERING

Common stock offered by us	shares
Common stock to be outstanding after this offering	shares
Use of proceeds	We intend to use the net proceeds from this offering for sales and marketing initiatives, including significantly expanding our sales force, to support the ongoing commercialization of our products; for research and product development activities; for expansion of our facilities and manufacturing operations; and for working capital and other general corporate purposes. We may also use a portion of our net proceeds to acquire and invest in complementary products, technologies or businesses; however, we currently have no agreements or commitments to complete any such transaction. See Use of Proceeds.
Proposed NASDAQ Global Market symbol	FLDM

The number of shares of our common stock to be outstanding following this offering is based on 21,158,887 shares of our common stock outstanding as of September 30, 2010 excludes:

- 3,195,172 shares of common stock issuable upon exercise of options outstanding as of September 30, 2010, at a weighted average exercise price of $2.42 per share;
- 668,845 shares of common stock issuable upon the exercise of warrants outstanding as of September 30, 2010, at a weighted average exercise price of $10.03 per share, after conversion of our convertible preferred stock;
- shares of common stock reserved for future issuance under our stock-based compensation plans, including shares of common stock reserved for issuance under our 2011 Equity Incentive Plan, which will become effective on the date of this prospectus, and any future automatic increase in shares reserved for issuance under such plan; and
- 417 shares of common stock that were issued and outstanding but were not included in stockholders deficit as of September 30, 2010, pursuant to accounting principles generally accepted in the United States, as these shares were subject to a right of repurchase by us.

Unless otherwise indicated, this prospectus reflects and assumes the following:

- the conversion of all outstanding shares of our convertible preferred stock into an aggregate of 17,812,469 shares of common stock upon the closing of this offering;
- the filing of our amended and restated certificate of incorporation immediately prior to the effectiveness of this offering; and
- no exercise by the underwriters of their over-allotment option.

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SUMMARY CONSOLIDATED FINANCIAL DATA

We have derived the summary consolidated statement of operations data for the years ended December 29, 2007, December 27, 2008 and December 31, 2009 from our audited consolidated financial statements included elsewhere in this prospectus. The report of our independent registered public accounting firm on our consolidated financial statements for the year ended December 31, 2009, which appears elsewhere in this prospectus, includes an explanatory paragraph that describes an uncertainty about our ability to continue as a going concern. We have derived the summary consolidated statement of operations data for the nine months ended September 30, 2009 and 2010, and the consolidated balance sheet data as of September 30, 2010 from our unaudited consolidated financial statements included elsewhere in this prospectus. Our historical results are not necessarily indicative of the results that may be expected in the future. The following summary consolidated financial data should be read in conjunction with Management s Discussion and Analysis of Financial Condition and Results of Operations and our consolidated financial statements and related notes included elsewhere in this prospectus.

	Year Ended			Nine Months Ended	
	December 29, 2007	December 27, 2008	December 31, 2009	September 30, 2009	September 30, 2010
	(in thousands, except per share data)				
Consolidated Statement of Operations Data:					
Revenue:					
Product revenue	$ 4,451	$ 13,364	$ 23,599	$ 16,369	$ 20,883
Collaboration revenue	460	70			975
Grant revenue	2,364	1,913	1,813	1,420	1,347
Total revenue	7,275	15,347	25,412	17,789	23,205
Costs and expenses:					
Cost of product revenue	3,514	8,364	11,486	8,404	7,999
Research and development	14,389	14,015	12,315	9,249	10,097
Selling, general and administrative	12,898	22,511	19,648	14,386	17,672
Total costs and expenses	30,801	44,890	43,449	32,039	35,768
Loss from operations	(23,526)	(29,543)	(18,037)	(14,250)	(12,563)
Interest expense	(2,790)	(2,031)	(2,876)	(1,849)	(1,620)
Gain (loss) from changes in the fair value of convertible preferred stock warrants, net	(245)	769	(135)	180	210
Interest income	1,140	766	37	33	7
Other income (expense), net	75	393	1,833	189	284
Loss before income taxes	(25,346)	(29,646)	(19,178)	(15,697)	(13,682)
(Provision) benefit for income taxes	(105)	147	50	(3)	(142)
Net loss	$ (25,451)	$ (29,499)	$ (19,128)	$ (15,700)	$ (13,824)
Net loss per share of common stock, basic and diluted(1)	$ (9.21)	$ (10.32)	$ (6.37)	$ (5.34)	$ (4.26)
Shares used in computing net loss per share of common stock, basic and diluted(1)	2,765	2,859	3,004	2,939	3,246
Pro forma net loss per share of common stock, basic and diluted (unaudited)(1)			$ (0.96)		$ (0.67)
Shares used in computing pro forma net loss per share of common stock, basic and diluted (unaudited)(1)			19,710		20,975

(1) Please see Note 2 to our audited consolidated financial statements for an explanation of the method used to calculate basic and diluted net loss per share and basic and diluted pro forma net loss per share of common stock for the year ended December 31, 2009. Please see Note 1 to our interim condensed consolidated financial statements for an explanation of the method used to calculate basic and diluted net loss per share and basic and diluted pro forma net loss per share of common stock for the nine months ended September 30, 2010.

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	As of September 30, 2010		
	Actual	Pro Forma(1)	Pro Forma As Adjusted(2)(3)
		(in thousands)	
Consolidated Balance Sheet Data:			
Cash and cash equivalents	$ 5,083	$ 5,083	
Working capital	6,817	7,214	
Total assets	22,090	22,090	
Total long-term debt	14,610	14,610	
Convertible preferred stock warrants	397		
Convertible preferred stock	184,549		
Total stockholders deficit	(186,395)	(1,449)	

(1) The pro forma balance sheet data in the table above reflects the conversion of all outstanding shares of convertible preferred stock into common stock and the reclassification of the convertible preferred stock warrant liabilities to additional paid-in capital, each effective upon the closing of this offering.

(2) The pro forma as adjusted balance sheet data in the table above also reflects the pro forma conversions and reclassifications described immediately above plus the sale of shares of our common stock in this offering and the application of the net proceeds at an initial public offering price of $ per share, the midpoint of the range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

(3) A $1.00 increase (decrease) in the assumed initial public offering price of $ per share, the midpoint of the range set forth on the cover page of this prospectus, would increase (decrease) cash and cash equivalents and each of working capital, total assets and total stockholders equity by $ million, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same. Each increase of 1.0 million shares in the number of shares offered by us would increase cash and cash equivalents and each of working capital, total assets and total stockholders equity by approximately $ million. Similarly, each decrease of 1.0 million shares in the number of shares offered by us would decrease cash and cash equivalents and each of working capital, total assets and total stockholders equity by approximately $ million. The pro forma as adjusted information discussed above is illustrative only and will be adjusted based on the actual public offering price and other terms of this offering determined at pricing.

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RISK FACTORS

Investing in our common stock involves a high degree of risk. You should consider carefully the risks and uncertainties described below, together with all of the other information in this prospectus, including our consolidated financial statements and related notes, before deciding whether to purchase shares of our common stock. If any of the following risks is realized, our business, financial condition, results of operations and prospects could be materially and adversely affected. In that event, the price of our common stock could decline and you could lose part or all of your investment.

Risks Related to our Business and Strategy

We have incurred losses since inception, and we expect to continue to incur substantial losses for the foreseeable future.

We have a limited operating history and have incurred significant losses in each fiscal year since our inception, including net losses of $25.5 million, $29.5 million, $19.1 million and $13.8 million during 2007, 2008, 2009 and the nine months ended September 30, 2010, respectively. As of September 30, 2010, we had an accumulated deficit of $196.2 million. These losses have resulted principally from costs incurred in our research and development programs and from our selling, general and administrative expenses. We expect to continue to incur operating and net losses and negative cash flow from operations, which may increase, for the foreseeable future due in part to anticipated increases in expenses for research and product development and significant expansion of our sales and marketing capabilities. Additionally, following this offering, we expect that our selling, general and administrative expenses will increase due to the additional operational and reporting costs associated with being a public company. We anticipate that our business will generate operating losses until we successfully implement our commercial development strategy and generate significant additional revenues to support our level of operating expenses. Because of the numerous risks and uncertainties associated with our commercialization efforts and future product development, we are unable to predict when we will become profitable, and we may never become profitable. Even if we do achieve profitability, we may not be able to sustain or increase our profitability.

If our products fail to achieve and sustain sufficient market acceptance, our revenue will be adversely affected.

Our success depends, in part, on our ability to develop and market products that are recognized and accepted as reliable, enabling and cost effective. Most of our potential customers already use expensive research systems in their laboratories and may be reluctant to replace those systems. Market acceptance of our systems will depend on many factors, including our ability to convince potential customers that our systems are an attractive alternative to existing technologies. Compared to most competing technologies, our microfluidic technology is relatively new, and most potential customers have limited knowledge of, or experience with, our products. Prior to adopting our microfluidic systems, some potential customers may need to devote time and effort to testing and validating our systems. Any failure of our systems to meet these customer benchmarks could result in customers choosing to retain their existing systems or to purchase systems other than ours.

In addition, many customers intend to publish the results of their experiments in scientific and medical journals. Therefore, it is important that our systems be perceived as accurate and reliable by the scientific and medical research community as a whole. Many factors influence the perception of a system including its use by leading research groups and the publication of their results in well regarded journals. Historically, a significant part of our sales and marketing efforts have been directed at convincing industry leaders of the advantages of our systems and encouraging such leaders to publish or present the results of their evaluation of our system. If we are unable to continue to induce leading researchers to use our systems or if such researchers are unable to achieve and publish or present significant experimental results using our systems, acceptance and adoption of our systems will be slowed.

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Our financial results may vary significantly from quarter-to-quarter due to a number of factors, which may lead to volatility in our stock price.

Our quarterly revenue and results of operations have varied in the past and may continue to vary significantly from quarter-to-quarter. This variability may lead to volatility in our stock price as research analysts and investors respond to these quarterly fluctuations. These fluctuations are due to numerous factors, including: fluctuations in demand for our products; changes in customer budget cycles and capital spending; seasonal variations in customer operations; tendencies among some customers to defer purchase decisions to the end of the quarter; the large unit value of our systems; changes in our pricing and sales policies or the pricing and sales policies of our competitors; our ability to design, manufacture and deliver products to our customers in a timely and cost-effective manner; quality control or yield problems in our manufacturing operations; our ability to timely obtain adequate quantities of the components used in our products; new product introductions and enhancements by us and our competitors; unanticipated increases in costs or expenses; and fluctuations in foreign currency exchange rates. For example, in 2008 and 2009, we experienced higher sales in the fourth quarter than in the first quarter of the next fiscal year as a result of one or more of the factors described above. The foregoing factors are difficult to forecast, and these, as well as other factors, could materially and adversely affect our quarterly and annual results of operations. In addition, a significant amount of our operating expenses are relatively fixed due to our manufacturing, research and development, and sales and general administrative efforts. Any failure to adjust spending quickly enough to compensate for a revenue shortfall could magnify the adverse impact of such revenue shortfall on our results of operations. Our results of operations may not meet the expectations of research analysts or investors, in which case the price of our common stock could decrease significantly.

Our future success is dependent upon our ability to expand our customer base and introduce new applications.

Our customer base is primarily composed of pharmaceutical, biotechnology and Ag-Bio companies, academic institutions and life science laboratories that perform analyses for research and commercial purposes. Our success will depend in part upon our ability to increase our market share among these customers, attract additional customers outside of these markets and market new applications to existing and new customers as we develop such applications. Attracting new customers and introducing new applications requires substantial time and expense. For example, it may be difficult to identify, engage and market to customers who are unfamiliar with the current applications of our systems. In addition, certain new applications that we are considering developing are not commonly performed with conventional techniques and therefore may require additional sales efforts to create customer awareness of the utility of these applications. Any failure to expand our existing customer base or launch new applications would adversely affect our ability to increase our revenues.

The life science research and Ag-Bio markets are highly competitive and subject to rapid technological change, and we may not be able to successfully compete.

The markets for our products are characterized by rapidly changing technology, evolving industry standards, changes in customer needs, emerging competition, new product introductions and strong price competition. We compete with both established and development stage life science research and Ag-Bio companies that design, manufacture and market instruments for gene expression analysis, genotyping, PCR, other nucleic acid detection and additional applications using well established laboratory techniques, as well as newer technologies such as bead encoded arrays, microfluidics, nanotechnology, high-throughput DNA sequencing and inkjet and photolithographic arrays. Most of our current competitors have significantly greater name recognition, greater financial and human resources, broader product lines and product packages, larger sales forces, larger existing installed bases, larger intellectual property portfolios and greater experience and scale in research and development, manufacturing and marketing than we do. For example, companies such as Affymetrix, Inc., Agilent Technologies, Inc., Caliper Life Sciences, Inc., Illumina, Inc., Life Technologies Corporation, Luminex Corporation, Roche Applied Science, NanoString Technologies, Inc., RainDance Technologies, Inc., Sequenom, Inc. and WaferGen Biosystems, Inc. have products that compete in certain segments of the market in which we sell our products, including gene expression analysis, genotyping and sequencing. In addition, a number of other companies and academic groups are in the process of developing novel technologies for life science markets.

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Competitors may be able to respond more quickly and effectively than we can to new or changing opportunities, technologies, standards or customer requirements. In light of these advantages, even if our technology is more effective than the product or service offerings of our competitors, current or potential customers might accept competitive products and services in lieu of purchasing our technology. We anticipate that we will face increased competition in the future as existing companies and competitors develop new or improved products and as new companies enter the market with new technologies. We may not be able to compete effectively against these organizations. Increased competition is likely to result in pricing pressures, which could harm our sales, profitability or market share. Our failure to compete effectively could materially and adversely affect our business, financial condition and results of operations.

We have limited experience in marketing, selling and distributing our products, and we need to expand our direct sales and marketing force or distribution capabilities to adequately address our customers needs.

We have limited experience in marketing, selling and distributing our products. Our BioMark and EP1 systems for genomic analysis were introduced for commercial sale in 2006 and 2008, respectively. Our Access Array system for sample preparation was introduced for commercial sale in 2009. We may not be able to market, sell and distribute our products effectively enough to support our planned growth.

We sell our products primarily through our own sales force and through distributors in certain territories. Our future sales will depend in large part on our ability to develop and substantially expand our direct sales force and to increase the scope of our marketing efforts. Our products are technically complex and used for highly specialized applications. As a result, we believe it is necessary to develop a direct sales force that includes people with specific scientific backgrounds and expertise and a marketing group with technical sophistication. Competition for such employees is intense. We may not be able to attract and retain personnel or be able to build an efficient and effective sales and marketing force, which could negatively impact sales of our products, and reduce our revenues and profitability.

In addition, we may continue to enlist one or more sales representatives and distributors to assist with sales, distribution and customer support globally or in certain regions of the world. If we do seek to enter into such arrangements, we may not be successful in attracting desirable sales representatives and distributors, or we may not be able to enter into such arrangements on favorable terms. If our sales and marketing efforts, or those of any third-party sales representatives and distributors, are not successful, our technologies and products may not gain market acceptance, which would materially impact our business operations.

Our business depends on research and development spending levels of pharmaceutical, Ag-Bio and biotechnology companies and academic, clinical and governmental research institutions and any reduction in such spending could limit our ability to sell our products.

We expect that our revenue in the foreseeable future will be derived primarily from sales of our microfluidic systems and chips to academic institutions and biotechnology, Ag-Bio and pharmaceutical companies and life science laboratories worldwide. Our success will depend upon their demand for and use of our products. Accordingly, the spending policies of these customers could have a significant effect on the demand for our technology. These policies may be based on a wide variety of factors, including the resources available to make purchases, the spending priorities among various types of equipment, policies regarding spending during recessionary periods and changes in the political climate. In addition, academic, governmental and other research institutions that fund research and development activities may be subject to stringent budgetary constraints that could result in spending reductions, reduced allocations or budget cutbacks, which could jeopardize the ability of these customers to purchase our system. Our operating results may fluctuate substantially due to reductions and delays in research and development expenditures by these customers. For example, reductions in capital expenditures by these customers may result in lower than expected system sales and, similarly, reductions in operating expenditures by these customers could result in lower than expected sales of our microfluidic systems and chips. These reductions and delays may result from factors that are not within our control, such as:

- changes in economic conditions;

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changes in government programs that provide funding to research institutions and companies;

changes in the regulatory environment affecting life science and Ag-Bio companies engaged in research and commercial activities;

differences in budget cycles across various geographies and industries;

market-driven pressures on companies to consolidate operations and reduce costs;

mergers and acquisitions in the life science and Ag-Bio industries; and

other factors affecting research and development spending.

Any decrease in our customers budgets or expenditures or in the size, scope or frequency of capital or operating expenditures as a result of the foregoing or other factors could materially and adversely affect our operations or financial condition.

We may not be able to develop new systems or enhance the capabilities of our existing microfluidic systems to keep pace with rapidly changing technology and customer requirements.

Our success depends on our ability to develop new applications for our technology in existing and new markets, while improving the performance and cost effectiveness of our systems. New technologies, techniques or products could emerge that might offer better combinations of price and performance than our current or future product lines and systems. Existing markets for our products, including gene expression analysis, genotyping, digital polymerase chain reaction, or PCR, and single cell analyses, as well as potential markets for our products such as high-throughput DNA sequencing and molecular diagnostics applications, are characterized by rapid technological change and innovation. It is critical to our success for us to anticipate changes in technology and customer requirements and to successfully introduce new, enhanced and competitive technology to meet our customers and prospective customers needs on a timely basis. Developing and implementing new technologies will require us to incur substantial development costs and we may not have adequate resources available to be able to successfully introduce new applications of, or enhancements to, our systems. We cannot guarantee that we will be able to maintain technological advantages over emerging technologies in the future. While we have planned improvements to our BioMark, EP1 and Access Array systems, we may not be able to successfully implement these improvements. If we fail to keep pace with emerging technologies, demand for our systems will not grow and may decline, and our business, revenue, financial condition and operating results could suffer materially. Even if we successfully implement some or all of these planned improvements, we cannot guarantee that our current and potential customers will find our enhanced systems to be an attractive alternative to existing technologies, including our current products.

Emerging market opportunities may not develop as quickly as we expect.

The application of our technologies to molecular diagnostics, single cell analysis, digital PCR and sample preparation for next generation DNA sequencing are emerging market opportunities. We believe these opportunities will take several years to develop or mature and we cannot be certain that these market opportunities will develop as we expect. Although we believe that there will be applications of our technologies in these markets, there can be no certainty of the technical or commercial success our technologies will achieve in such markets. Our success in the emerging markets of molecular diagnostics, single cell analysis, digital PCR and sample preparation for next generation DNA sequencing may depend to a large extent on our ability to successfully market and sell products using our technologies. In addition, in the case of molecular diagnostics, we will need to obtain regulatory approval for such products in the United States and in overseas markets.

Our research and product development efforts may not result in commercially viable products within the timeline anticipated, if at all.

Our business is dependent on the improvement of our existing products, our development of new products to serve existing markets and our development of new products to create new markets and applications that were

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previously not practical with existing systems. We intend to devote significant personnel and financial resources to research and development activities designed to advance the capabilities of our microfluidic systems technology. Our technology is new and complex and the behavior of fluids and surrounding compounds in a nanoscale environment is difficult to predict in advance. Though we have developed design rules for the implementation of our technology, these are frequently revised to reflect new insights we have gained about the technology. In addition, we have discovered that biological or chemical reactions sometimes behave differently when implemented on our systems rather than in a standard laboratory environment. As a result, research and development efforts may be required to transfer certain reactions to our systems. In the past, product development projects have been significantly delayed when we encountered unanticipated difficulties in implementing a process on our systems. We may have similar delays in the future, and we may not obtain any benefits from our research and development activities. Any delay or failure by us to develop new products or enhance existing products would have a substantial adverse effect on our business and results of operations.

Our sales cycles are lengthy and variable, which makes it difficult for us to forecast revenue and other operating results.

The sales cycles for our systems are lengthy, which makes it difficult for us to accurately forecast revenues in a given period, and may cause revenue and operating results to vary significantly from period to period.

Due in part to the high up-front cost associated with our systems, potential customers for our systems typically need to commit significant time and resources to evaluate our technology and their decision to purchase our instruments may be further limited by budgetary constraints and several layers of internal review and approval, which are beyond our control. In addition, the novelty and complexity of our products often requires us to spend substantial time and effort assisting potential customers in evaluating our instruments, including providing demonstrations and benchmarking our products against other available technologies. Even after initial approval by appropriate decision makers, the negotiation and documentation processes for a purchase can be lengthy. As a result of these factors, our sales cycle has varied widely and, in certain instances has been longer than 12 months. The complexity and variability of our sales cycle has made it difficult for us to accurately project quarterly revenues, and we have frequently failed to meet our internal quarterly projections. Moreover, we do not recognize revenue on sales of our systems until the system has been delivered to the customer and our other revenue recognition criteria have been met. This further complicates our ability to project quarterly revenue as we may have entered into a sale agreement with a customer for a system but cannot predict when that customer will take delivery of the system and when we will be able to recognize the revenue. We expect that our sales will continue to fluctuate on a quarterly basis and that our financial results for some periods may be below those projected by securities analysts. Such fluctuations could have a material adverse effect on our business and on the price of our common stock.

We may rely on strategic partnerships for research and development and commercialization purposes.

We have entered into and may continue to enter into strategic partnerships, including collaborations, joint ventures and alliances with other participants in the life science, Ag-Bio and molecular diagnostics industries. For example, in 2010, we entered into a collaboration agreement in molecular diagnostics and a co-marketing agreement in next generation sequencing. If any of our strategic partners were to change their business strategies or development priorities, or encounter research and development obstacles, they may no longer be willing or able to participate in such strategic partnerships which could have a material adverse effect on our business, financial condition and results of operations. In addition, we may not control the strategic partnerships in which we participate. We may also have certain obligations, including some limited funding obligations or take or pay obligations, with regard to our strategic partnerships, joint ventures and alliances. We may be required to relinquish important rights, including intellectual property rights, and control over the development of our product candidates, assume product or other liabilities associated with the use of our products in diagnostic and other applications, agree to restrictions on the use or applications of our products, or otherwise be subject to terms unfavorable to us.

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Under our collaboration agreements with Novartis Vaccines & Diagnostics, Inc., or Novartis V&D, our capabilities in digital PCR are being developed for potential in-vitro diagnostics applications, with an initial focus on the development of an NIPD test for fetal aneuploidies. These agreements provide Novartis V&D with an option to exclusively license our technology in the primary field of non-invasive testing for fetal aneuploidies and the secondary field of non-invasive testing of genetic abnormality, disease or condition in a fetus or in a pregnant woman (other than as tested in the primary field), RhD genotyping or carrier status in a pregnant woman and the genetic carrier status of a prospective mother and her male partner. Under these agreements, except with Novartis V&D, we cannot, directly or in collaboration with a third party, use, develop or sell any products or services in the primary field or the secondary field, other than for research applications in the secondary field. The agreements contain technical feasibility milestones in 2010 and 2011 and may be terminated by Novartis V&D at any time. At Novartis V&D s option, these agreements can be extended to encompass further research, development and commercialization of our products, which could take several years or more to complete. The agreements provide that if a test is commercialized, we would supply the required systems and chips for performance of such test.

Our agreements and efforts with Novartis V&D are in their early stages and are subject to numerous conditions, contingencies, development challenges, milestones, royalty and license fees, indemnification obligations, termination rights, change of control and default provisions and regulatory approvals. There can be no assurance that this collaboration will lead to technology, products or services, that such technology, products or services will receive market acceptance, that we will realize any material revenue or other benefits from this collaboration or that the benefits will exceed our costs.

If our facility becomes inoperable, we will be unable to continue manufacturing our products and as a result, our business will be harmed until we are able to secure a new facility.

We manufacture and assemble all of our products for commercial sale at our facility in Singapore. No other manufacturing or assembly facilities are currently available to us. Our facility and the equipment we use to manufacture our products would be costly to replace and could require substantial lead time to repair or replace. The facility may be harmed or rendered inoperable by natural or man-made disasters, including earthquakes, flooding and power outages, which may render it difficult or impossible for us to perform our research, development and manufacturing for some period of time. The inability to perform our research, development and manufacturing activities, combined with our limited inventory of reserve raw materials and manufactured supplies, may result in the loss of customers or harm our reputation, and we may be unable to reestablish relationships with those customers in the future. Although we possess insurance for damage to our property and the disruption of our business, this insurance may not be sufficient to cover all of our potential losses and may not continue to be available to us on acceptable terms, or at all.

Our future capital needs are uncertain and we may need to raise additional funds in the future.

We believe that the net proceeds from this offering, together with our existing cash and cash equivalents will be sufficient to meet our anticipated cash requirements for at least the next 18 months. However, we may need to raise substantial additional capital to:

- expand the commercialization of our products;
- fund our operations; and
- further our research and development.

Our future funding requirements will depend on many factors, including:

- market acceptance of our products;
- the cost of our research and development activities;

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- the cost of filing and prosecuting patent applications;
- the cost of defending, in litigation or otherwise, any claims that we infringe third-party patents or violate other intellectual property rights;
- the cost and timing of regulatory clearances or approvals, if any;
- the cost and timing of establishing additional sales, marketing and distribution capabilities;
- the cost and timing of establishing additional technical support capabilities;
- the effect of competing technological and market developments; and
- the extent to which we acquire or invest in businesses, products and technologies, although we currently have no commitments or agreements relating to any of these types of transactions.

We cannot assure you that we will be able to obtain additional funds on acceptable terms, or at all. If we raise additional funds by issuing equity securities, our stockholders may experience dilution. Debt financing, if available, may involve covenants restricting our operations or our ability to incur additional debt. Any debt or additional equity financing that we raise may contain terms that are not favorable to us or our stockholders. If we raise additional funds through collaboration and licensing arrangements with third parties, it may be necessary to relinquish some rights to our technologies or our products, or grant licenses on terms that are not favorable to us. If we are unable to raise adequate funds, we may have to liquidate some or all of our assets, or delay, reduce the scope of or eliminate some or all of our development programs.

If we do not have, or are not able to obtain, sufficient funds, we may have to delay development or commercialization of our products or license to third parties the rights to commercialize products or technologies that we would otherwise seek to commercialize. We also may have to reduce marketing, customer support or other resources devoted to our products or cease operations. Any of these factors could harm our operating results.

To use our products and our BioMark system in particular, customers typically need to purchase specialized reagents. Any interruption in the availability of these reagents for use in our products could limit our ability to market our products.

Our products and our BioMark system in particular, must be used in conjunction with one or more reagents designed to produce or facilitate the particular biological or chemical reaction desired by the user. Many of these reagents are highly specialized and available to the user only from a single supplier or a limited number of suppliers. Our customers typically purchase these reagents directly from the suppliers and we have no control over the supply of those materials. In addition, our products are designed to work with these reagents as they are currently formulated. We have no control of the formulation of these reagents and the performance of our products might be adversely affected if the formulation of these reagents was changed. If one or more of these reagents were to become unavailable or were reformulated, our ability to market and sell our products could be materially and adversely affected.

In addition, the use of a reagent for a particular process may be covered by one or more patents relating to the reagent itself, the use of the reagent for the particular process, the performance of that process or the equipment required to perform the process. Typically, reagent suppliers, who are either the patent holders or their authorized licensees, sell the reagents along with a license or covenant not to sue with respect to such patents. The license accompanying the sale of a reagent often purports to restrict the purposes for which the reagent may be used. If a patent holder or authorized licensee were to assert against us or our customers that the license or covenant relating to a reagent precluded its use with our systems, our ability to sell and market our products could be materially and adversely affected. For example, the current applications of our BioMark system, which represented 52% of our product revenue in 2009, involve real-time polymerase chain reaction, or PCR. Leading suppliers of reagents for PCR reactions include Life Technologies and Roche Applied Science, who are our

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direct competitors, and their licensees. These PCR reagents are typically sold pursuant to limited licenses or covenants not to sue with respect to patents held by these companies. We do not have any contractual supply agreements for these PCR reagents, and we cannot assure you that these reagents will continue to be available to our customers for use with our systems, or that these patent holders will not seek to enforce their patents against us, our customers, or suppliers.

If we cannot provide quality technical support, we could lose customers and our operating results could suffer.

The placement of our products at new customer sites, the introduction of our technology into our customers existing systems and ongoing customer support can be complex. Accordingly, we need highly trained technical support personnel. Hiring technical support personnel is very competitive in our industry due to the limited number of people available with the necessary biochemistry background and ability to understand our systems at a technical level. To effectively support potential new customers and the expanding needs of current customers, we will need to substantially expand our technical support staff. If we are unable to attract, train or retain the number of highly qualified technical services personnel that our business needs, our business and prospects will suffer.

We are dependent on single source suppliers for some of the components and materials used in our systems, and the loss of any of these suppliers could harm our business.

We rely on single source suppliers for certain components and materials used in our systems. Of these single source suppliers, the loss of any of the following would require significant time and effort to locate and qualify an alternative source of supply:

- The chips used in our microfluidic systems are fabricated using a specialized polymer that is available from a limited number of sources. In the past we have encountered quality issues that have reduced our manufacturing yield or required the use of additional manufacturing processes. We do not have a long term contract with our current sole supplier.

- The reader for our BioMark system requires specialized high resolution camera lenses and other components that are available from a limited number of sources.

Our reliance on these suppliers also subjects us to other risks that could harm our business, including the following:

- we may be subject to increased component costs;

- we may not be able to obtain adequate supply in a timely manner or on commercially reasonable terms;

- our suppliers may make errors in manufacturing components that could negatively affect the efficacy of our systems or cause delays in shipment of our systems; and

- our suppliers may encounter financial hardships unrelated to our demand for components, which could inhibit their ability to fulfill our orders and meet our requirements.

We have in the past experienced quality control and supply problems with some of our suppliers, such as manufacturing errors, and may again experience problems in the future. We may not be able to quickly establish additional or replacement suppliers, particularly for our single source components. Any interruption or delay in the supply of components or materials, or our inability to obtain components or materials from alternate sources at acceptable prices in a timely manner, could impair our ability to meet the demand of our customers and cause them to cancel orders or switch to competitive products.

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We may experience development or manufacturing problems or delays that could limit the growth of our revenue or increase our losses.

We have been manufacturing and assembling our products in significant commercial quantities since 2006, and we may encounter unforeseen situations that would result in delays or shortfalls in our production. In addition, our production processes and assembly methods may have to change to accommodate any significant future expansion of our manufacturing capacity. If we are unable to keep up with demand for our products, our revenue could be impaired, market acceptance for our products could be adversely affected and our customers might instead purchase our competitors products. Our inability to successfully manufacture our products would have a material adverse effect on our operating results.

All of our commercial products are manufactured at our facility in Singapore. We began commercial production of our chips in Singapore in October 2006 and have transitioned the commercial production of our microfluidic systems to Singapore as well. Production of the elastomeric block that is at the core of our chips is a complex process requiring advanced clean rooms, sophisticated equipment and strict adherence to procedures. Any contamination of the clean room, equipment malfunction or failure to strictly follow procedures can significantly reduce our yield in one or more batches. We have in the past experienced variations in yields due to such factors. Such a drop in yield can increase our cost to manufacture our chips or, in more severe cases, require us to halt the manufacture of our chips until the problem is resolved. Identifying and resolving the cause of a drop in yield can require substantial time and resources.

In addition, developing a chip for a new application may require developing a specific production process for that type of chip. While all of our chips are produced using the same basic processes, significant variations may be required to ensure adequate yield of any particular type of chip. Developing such a process can be very time consuming, and any unexpected difficulty in doing so can delay the introduction of a product.

Our shipments of products to customers are subject to delays or cancellation due to work stoppages or slowdowns, piracy, damage to shipping facilities caused by weather or terrorism, and congestion due to inadequacy of shipping equipment and other causes.

Because all our products are manufactured at our facility in Singapore, we rely on shipping providers to deliver our products to our customers. To the extent that there are disruptions or delays in shipping our products from Singapore or off-loading our products upon arrival at their destination due to labor disputes, tariff or World Trade Organization-related disputes, piracy, physical damage to shipping facilities or equipment caused by severe weather or terrorist incidents, congestion at shipping facilities, inadequate equipment to load, dock and offload our products or energy-related tie-ups or otherwise, or for other reasons, product shipments to our customers will be delayed. Depending on the severity of such consequences, this may have an adverse effect on our financial condition and results of operations.

If we are unable to recruit and retain key executives and scientists, we may be unable to achieve our goals.

Our performance is substantially dependent on the performance of our senior management and key scientific and technical personnel, particularly Gajus V. Worthington, our President and Chief Executive Officer. We do not maintain fixed term employment contracts with any of our employees. The loss of the services of any member of our senior management or our scientific or technical staff might significantly delay or prevent the development of our products or achievement of other business objectives by diverting management s attention to transition matters and identification of suitable replacements, if any, and could have a material adverse effect on our business. We do not maintain significant key man life insurance on any of our employees.

In addition, our research and product development efforts could be delayed or curtailed if we are unable to attract, train and retain highly skilled employees, particularly, senior scientists and engineers. To expand our research and product development efforts, we need additional people skilled in areas such as molecular and cellular biology, assay development and manufacturing. Competition for these people is intense. Because of the

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complex and technical nature of our system and the dynamic market in which we compete, any failure to attract and retain a sufficient number of qualified employees could materially harm our ability to develop and commercialize our technology.

Adverse conditions in the global economy and disruption of financial markets may significantly harm our revenue, profitability and results of operations.

The global economy has been experiencing a significant economic downturn, and global credit and capital markets have experienced substantial volatility and disruption. Volatility and disruption of financial markets could limit our customers ability to obtain adequate financing or credit to purchase and pay for our products in a timely manner or to maintain operations, which could result in a decrease in sales volume that could harm our results of operations. General concerns about the fundamental soundness of domestic and international economies may also cause our customers to reduce their purchases. Changes in governmental banking, monetary and fiscal policies to address liquidity and increase credit availability may not be effective. Significant government investment and allocation of resources to assist the economic recovery of sectors which do not include our customers may reduce the resources available for government grants and related funding for life science, Ag-Bio and molecular diagnostics research and development. Continuation or further deterioration of these financial and macroeconomic conditions could significantly harm our sales, profitability and results of operations.

We may be unable to manage our anticipated growth effectively.

The rapid growth of our business has placed a significant strain on our managerial, operational and financial resources and systems. We have increased the number of our employees from 131 at December 29, 2007 to 198 at September 30, 2010. To execute our anticipated growth successfully, we must continue to attract and retain qualified personnel and manage and train them effectively. We must also upgrade our internal business processes and capabilities to create the scalability that a growing business demands.

We believe our commercial manufacturing facility located in Singapore is sufficient to meet our short-term manufacturing needs. The current leases for our manufacturing facility in Singapore expire at various times from October 2011 through July 2013. In order to meet the long-term demand for our microfluidic systems, we believe that we will need to add to our existing manufacturing space in Singapore or move all of our manufacturing facilities to a new location in Singapore in 2012. Such a move will involve significant expense in connection with the establishment of new clean rooms, the movement and installation of key manufacturing equipment and modifications to our manufacturing process and we cannot assure you that such a move would not delay or otherwise adversely affect our manufacturing activities.

Further, our anticipated growth will place additional strain on our suppliers and manufacturing facilities, resulting in an increased need for us to carefully monitor quality assurance. Any failure by us to manage our growth effectively could have an adverse effect on our ability to achieve our development and commercialization goals.

Demand for our technology could be reduced by legal, social and ethical concerns surrounding the use of genetic information and biological materials.

Our products may be used to provide genetic information or analyze biological materials from humans, agricultural crops and other living organisms. The information obtained from our products could be used in a variety of applications, which may have underlying legal, social and ethical concerns, including the genetic engineering or modification of agricultural products, testing for genetic predisposition for certain medical conditions and stem cell research. Governmental authorities could, for safety, social or other purposes, call for limits on or impose regulations on the use of genetic testing or the use of certain biological materials. Such concerns or governmental restrictions could limit the use of our products, which could have a material adverse effect on our business, financial condition and results of operations.

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Our products, although not currently subject to regulation by the U.S. Food and Drug Administration or other regulatory agencies as medical devices, could become subject to regulation in the future.

Our products are currently labeled and sold to biotechnology and pharmaceutical companies, academic institutions, and life sciences laboratories for research purposes only, and not diagnostic procedures. As a research only products, they and are not subject to regulation as medical devices by the U.S. Food and Drug Administration, or FDA, or comparable agencies of other countries. However, if we change the labeling of our products in the future to include diagnostic applications, our products or related applications could be subject to the FDA s pre- and post-market regulations. For example, if we wish to label and market our products for use in performing clinical diagnostics, we would first need to obtain FDA premarket clearance or approval. Obtaining FDA clearance or approval can be expensive and uncertain, generally takes several months to years to obtain, and may require detailed and comprehensive scientific and clinical data. Notwithstanding the expense, these efforts may never result in FDA approval or clearance. Even if we were to obtain regulatory approval or clearance, it may not be for the uses we believe are important or commercially attractive.

Further, FDA may expand its jurisdiction over our products or the products of our customers, which could impose restrictions on our ability to market and sell our products. For example, our customers may use our research use only products in their own laboratory developed tests, or LDTs, for clinical diagnostic use. FDA has historically exercised enforcement discretion in not enforcing the medical device regulations against LDTs. However, the FDA could assert jurisdiction over some or all LDTs, which may impact our customers uses of our products. A significant change in the way that the FDA regulates our products or the LDTs that our customers develop may require us to change our business model in order to maintain compliance with these laws. The FDA recently held a meeting in July 2010, during which it indicated that it intends to reconsider its policy of enforcement discretion and to begin drafting a new oversight framework for LDTs. If the FDA imposes significant changes to the regulation of LDTs, or modifies its approach to our research use only tests which may be used by our customers for clinical use, it could reduce our revenues or increase our costs and adversely affect our business, prospects, results of operations or financial condition.

Finally, we may be required to proactively achieve compliance with certain FDA regulations as part of our contracts with customers or as part of our collaborations with third parties. In addition, we may voluntarily seek to conform our manufacturing operations to the FDA s good manufacturing practice regulations for medical devices, known as the Quality System Regulation, or QSR. The QSR is a complex regulatory scheme that governs the methods and documentation covering the design, testing, control, manufacturing, labeling, quality assurance, packaging, storage and shipping of medical device products. The FDA enforces the QSR through periodic unannounced inspections of registered manufacturing facilities. The failure to take satisfactory corrective action in response to an adverse QSR inspection could result in enforcement actions, including a public warning letter, a shutdown of manufacturing operations, a product recall, civil or criminal penalties or other sanctions, which could in turn cause our sales and business to suffer.

Our products could have unknown defects or errors, which may give rise to claims against us and adversely affect market adoption of our systems.

Our microfluidic systems utilize novel and complex technology applied on a nanoliter scale and such systems may develop or contain undetected defects or errors. We cannot assure you that material performance problems, defects or errors will not arise, and as we increase the density and integration of our microfluidic systems, these risks may increase. While we do not provide express warranties that our microfluidic systems will meet performance expectations or be free from defects, we have done so in the past, and expect to in the future in response to customer concerns in order to preserve customer relationships and help foster continued adoption and use of our systems. We typically do provide warranties relating to other parts of our microfluidic systems. The costs incurred in correcting any defects or errors may be substantial and could adversely affect our operating margins.

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In manufacturing our products, we depend upon third parties for the supply of various components. Many of these components require a significant degree of technical expertise to produce. If our suppliers fail to produce components to specification, or if the suppliers, or we, use defective materials or workmanship in the manufacturing process, the reliability and performance of our products will be compromised.

If our products contain defects, we may experience:

- a failure to achieve market acceptance or expansion of our product sales;
- loss of customer orders and delay in order fulfillment;
- damage to our brand reputation;
- increased cost of our warranty program due to product repair or replacement;
- product recalls or replacements;
- inability to attract new customers;
- diversion of resources from our manufacturing and research and development departments into our service department; and
- legal claims against us, including product liability claims, which could be costly and time consuming to defend and result in substantial damages.

The occurrence of any one or more of the foregoing could negatively affect our business, financial condition and results of operations.

We generate a substantial portion of our revenues internationally and are subject to various risks relating to such international activities which could adversely affect our international sales and operating performance.

During 2007, 2008, 2009 and the nine months ended September 30, 2010, approximately 45%, 48%, 46% and 42%, respectively, of our product revenue was generated from sales to customers located outside of the United States. We believe that a significant percentage of our future revenue will come from international sources as we expand our overseas operations and develop opportunities in additional international areas. In addition, all of our commercial products are manufactured in Singapore. Our international business may be adversely affected by changing economic, political and regulatory conditions in foreign countries. Because the majority of our product sales are currently denominated in U.S. dollars, if the value of the U.S. dollar increases relative to foreign currencies, our products could become more costly to the international consumer and therefore less competitive in international markets, which could affect our financial performance. In addition, if the value of the U.S. dollar decreases relative to the Singapore dollar, it would become more costly in U.S. dollars for us to manufacture our products in Singapore. Furthermore, fluctuations in exchange rates could reduce our revenue, particularly with respect to grant revenue under agreements in Singapore, and affect demand for our products. Engaging in international business inherently involves a number of other difficulties and risks, including:

- required compliance with existing and changing foreign regulatory requirements and laws;

export or import restrictions;

laws and business practices favoring local companies;

longer payment cycles and difficulties in enforcing agreements and collecting receivables through certain foreign legal systems;

political and economic instability;

potentially adverse tax consequences, tariffs, customs charges, bureaucratic requirements and other trade barriers;

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- difficulties and costs of staffing and managing foreign operations; and

- difficulties protecting or procuring intellectual property rights.

If one or more of these risks occurs, it could require us to dedicate significant resources to remedy, and if we are unsuccessful in finding a solution, our financial results will suffer.

We use hazardous chemicals and biological materials in our business. Any claims relating to improper handling, storage or disposal of these materials could be time consuming and costly.

Our research and development and manufacturing processes involve the controlled use of hazardous materials, including flammables, toxics, corrosives and biologics. Our operations produce hazardous biological and chemical waste products. We cannot eliminate the risk of accidental contamination or discharge and any resultant injury from these materials. In addition, our microfluidic systems involve the use of pressurized systems and may involve the use of hazardous materials, which could result in injury. We may be sued for any injury or contamination that results from our use or the use by third parties of these materials. We do not currently maintain separate environmental liability coverage and any such contamination or discharge could result in significant cost to us in penalties, damages and suspension of our operations.

We will incur significant increased costs as a result of operating as a public company, and our management will be required to devote substantial time to new compliance initiatives.

We have never operated as a public company. As a public company, we will incur significant legal, accounting and other expenses that we did not incur as a private company. In addition, the Sarbanes-Oxley Act, as well as new rules subsequently implemented by the Securities and Exchange Commission and the NASDAQ Global Market, have imposed various new requirements on public companies, including requiring changes in corporate governance practices. Our management and other personnel will need to devote a substantial amount of time to these new compliance initiatives. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly. For example, we expect these new rules and regulations to make it more difficult and more expensive for us to obtain director and officer liability insurance and we may be required to incur substantial costs to maintain the same or similar coverage.

If we fail to maintain effective internal control over financial reporting in the future, the accuracy and timing of our financial reporting may be impaired, which could adversely affect our business and our stock price.

The Sarbanes-Oxley Act requires, among other things, that we maintain effective internal control over financial reporting and disclosure controls and procedures. In particular, with respect to our 2011 fiscal year, we must perform system and process evaluation and testing of our internal control over financial reporting to allow management to report on the effectiveness of our internal control over financial reporting, as required by Section 404 of the Sarbanes-Oxley Act. Our testing, or the subsequent testing by our independent registered public accounting firm, may reveal deficiencies in our internal control over financial reporting that are deemed to be material weaknesses. Our compliance with Section 404 will require that we incur substantial accounting expense and expend significant management time on compliance-related issues. We currently do not have an internal audit group and we will evaluate the need to hire additional accounting and financial staff with appropriate public company experience and technical accounting knowledge. Moreover, if we are not able to comply with the requirements of Section 404 in a timely manner, or if we or our independent registered public accounting firm identifies deficiencies in our internal control over financial reporting that are deemed to be material weaknesses, the market price of our stock could decline and we could be subject to sanctions or investigations by the NASDAQ Global Market, the Securities and Exchange Commission or other regulatory authorities, which would require additional financial and management resources.

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Some of our programs are partially supported by government grants, which may be reduced, withdrawn, delayed or reclaimed.

We have received and may continue to receive funds under research and economic development programs funded by the governments of Singapore and the United States. Funding by these governments may be significantly reduced or eliminated in the future for a number of reasons. For example, some U.S. programs are subject to a yearly appropriations process in Congress. Similarly, our grants from the Singapore government are part of an official policy to develop a life science industry in Singapore; that policy could change or the role of grants in it could be reduced or eliminated at any time. Grant agreements currently in place with the Singaporean government are set to expire in May 2011. In addition, we may not receive funds under existing or future grants because of budgeting constraints of the agency administering the program. A restriction on the government funding available to us would reduce the resources that we would be able to devote to existing and future research and development efforts. Such a reduction could delay the introduction of new products and hurt our competitive position.

Our agreements with the Singapore Economic Development Board, or EDB, provide that our continued eligibility for incentive grant payments from EDB is subject to our satisfaction of agreed upon targets for increasing levels of research, development and manufacturing activity in Singapore, including the use of local service providers, the hiring of personnel in Singapore, the incurrence of eligible expenses in Singapore, our receipt of new equity investment and our achievement of certain milestones relating to new product development or completion of specific manufacturing process objectives. These agreements further provide EDB with the right to demand repayment of a portion of past grants in the event that we did not meet our obligations under the applicable agreements. Based on correspondence with EDB, we believe that we have satisfied the conditions applicable to our EDB grant revenue through September 30, 2010.

Our ability to use net operating losses to offset future taxable income may be subject to certain limitations.

In general, under Section 382 of the Internal Revenue Code, a corporation that undergoes an ownership change is subject to limitations on its ability to utilize its pre-change net operating losses or NOLs to offset future taxable income. Our existing NOLs may be subject to limitations arising from previous ownership changes, and if we undergo an ownership change in connection with or after this offering, our ability to utilize NOLs could be further limited by Section 382 of the Internal Revenue Code. Future changes in our stock ownership, some of which are outside of our control, could result in an ownership change under Section 382 of the Internal Revenue Code. We may not be able to utilize a material portion of the NOLs reflected on our balance sheet and for this reason, we have fully reserved against the value of our NOLs on our balance sheet.

Our independent registered public accounting firm has expressed doubt about our ability to continue as a going concern.

Based on our cash balances as of December 31, 2009 and our projected spending in 2010 and without giving effect to our receipt of the proceeds of this offering, our independent registered public accounting firm has included in their audit opinion for the year ended December 31, 2009 a statement with respect to our ability to continue as a going concern. If we became unable to continue as a going concern, we may have to liquidate our assets and the values we receive for our assets in liquidation or dissolution could be significantly lower than the values reflected in our financial statements.

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Risks Related to Intellectual Property

Our ability to protect our intellectual property and proprietary technology through patents and other means is uncertain.

Our commercial success depends in part on our ability to protect our intellectual property and proprietary technologies. We rely on patent protection, where appropriate and available, as well as a combination of copyright, trade secret and trademark laws, and nondisclosure, confidentiality and other contractual restrictions to protect our proprietary technology. However, these legal means afford only limited protection and may not adequately protect our rights or permit us to gain or keep any competitive advantage. Our pending U.S. and foreign patent applications may not issue as patents or may not issue in a form that will be sufficient to protect our proprietary technology and gain or keep our competitive advantage. Any patents we have obtained or do obtain may be subject to re-examination, reissue, opposition or other administrative proceeding, or may be challenged in litigation, and such challenges could result in a determination that the patent is invalid or unenforceable. In addition, competitors may be able to design alternative methods or devices that avoid infringement of our patents. To the extent our intellectual property, including licensed intellectual property, offers inadequate protection, or is found to be invalid or unenforceable, we are exposed to a greater risk of direct competition. If our intellectual property does not provide adequate protection against our competitors products, our competitive position could be adversely affected, as could our business. Both the patent application process and the process of managing patent disputes can be time consuming and expensive. Furthermore, the laws of some foreign countries may not protect our intellectual property rights to the same extent as do the laws of the United States.

The patent positions of companies in the life science and Ag-Bio industries can be highly uncertain and involve complex legal and factual questions for which important legal principles remain unresolved. No consistent policy regarding the breadth of claims allowed in such companies patents has emerged to date in the United States. The laws of some non-U.S. countries do not protect intellectual property rights to the same extent as the laws of the United States, and many companies have encountered significant problems in protecting and defending such rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to biotechnology, which could make it difficult for us to stop the infringement of our patents. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial cost and divert our efforts and attention from other aspects of our business. Changes in either the patent laws or in interpretations of patent laws in the United States or other countries may diminish the value of our intellectual property. We cannot predict the breadth of claims that may be allowed or enforced in our patents or in third-party patents. For example:

- We might not have been the first to make the inventions covered by each of our pending patent applications;
- We might not have been the first to file patent applications for these inventions;
- Others may independently develop similar or alternative products and technologies or duplicate any of our products and technologies;
- It is possible that none of our pending patent applications will result in issued patents, and even if they issue as patents, they may not provide a basis for commercially viable products, or may not provide us with any competitive advantages, or may be challenged and invalidated by third parties;
- We may not develop additional proprietary products and technologies that are patentable;
- The patents of others may have an adverse effect on our business; and
- We apply for patents covering our products and technologies and uses thereof, as we deem appropriate. However, we may fail to apply for patents on important products and technologies in a timely fashion or at all.

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In addition to pursuing patents on our technology, we take steps to protect our intellectual property and proprietary technology by entering into confidentiality agreements and intellectual property assignment agreements with our employees, consultants, corporate partners and, when needed, our advisors. Such agreements may not be enforceable or may not provide meaningful protection for our trade secrets or other proprietary information in the event of unauthorized use or disclosure or other breaches of the agreements, and we may not be able to prevent such unauthorized disclosure. Monitoring unauthorized disclosure is difficult, and we do not know whether the steps we have taken to prevent such disclosure are, or will be, adequate. If we were to enforce a claim that a third party had illegally obtained and was using our trade secrets, it would be expensive and time consuming, and the outcome would be unpredictable. In addition, courts outside the United States may be less willing to protect trade secrets.

We may be involved in lawsuits to protect or enforce our patents and proprietary rights, to determine the scope, coverage and validity of others proprietary rights, or to defend against third party claims of intellectual property infringement that could require us to spend significant time and money and could prevent us from selling our products or services or impact our stock price.

Litigation may be necessary for us to enforce our patent and proprietary rights and/or to determine the scope, coverage and validity of others proprietary rights. Litigation on these matters has been prevalent in our industry and we expect that this will continue. To determine the priority of inventions, we may have to initiate and participate in interference proceedings declared by the U.S. Patent and Trademark Office that could result in substantial legal fees and could substantially affect the scope of our patent protection. Also, our intellectual property may be subject to significant administrative and litigation proceedings such as invalidity, unenforceability, re-examination and opposition proceedings against our patents. The outcome of any litigation or other proceeding is inherently uncertain and might not be favorable to us, and we might not be able to obtain licenses to technology that we require. Even if such licenses are obtainable, they may not be available at a reasonable cost. We could therefore incur substantial costs related to royalty payments for licenses obtained from third parties, which could negatively affect our gross margins. Further, we could encounter delays in product introductions, or interruptions in product sales, as we develop alternative methods or products.

In addition, if we resort to legal proceedings to enforce our intellectual property rights or to determine the validity, scope and coverage of the intellectual property or other proprietary rights of others, the proceedings could be burdensome and expensive, even if we were to prevail.

Our commercial success may depend in part on our non-infringement of the patents or proprietary rights of third parties. Numerous significant intellectual property issues have been litigated, and will likely continue to be litigated, between existing and new participants in the PCR market and competitors may assert that our products infringe their intellectual property rights as part of a business strategy to impede our successful entry into those markets. Third parties may assert that we are employing their proprietary technology without authorization. For example, on June 4, 2008 we received a letter from Applied Biosystems, Inc., now Life Technologies Corporation, asserting that our BioMark system for gene expression analysis infringes upon U.S. Patent No. 6,814,934, or the 934 patent, and its foreign counterparts in Europe and Canada. The 934 patent is owned by Applied Biosystems, LLC. In response to this letter, we filed suit against Applied Biosystems and Applera in federal district court in the Southern District of New York seeking declaratory judgment of non-infringement and invalidity of the 934 patent. Applied Biosystems and Applera answered our complaint and asserted a counterclaim against us, alleging infringement of the 934 patent. Pursuant to a joint stipulation, the claims and counterclaims were dismissed on January 13, 2009, without prejudice to the parties claims, which can be reasserted.

In addition, our competitors and others may have patents or may in the future obtain patents and claim that use of our products infringes these patents. As we move into new markets and applications for our products, incumbent participants in such markets may assert their patents and other proprietary rights against us as a means of slowing our entry into such markets or as a means to extract substantial license and royalty payments from us.

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Patent infringement suits can be expensive, lengthy and disruptive to business operations. We could incur substantial costs and divert the attention of our management and technical personnel in prosecuting or defending against any claims, and may harm our reputation. There can be no assurance that we will prevail in any suit initiated against us by third parties. Furthermore, parties making claims against us may be able to obtain injunctive or other relief, which could block our ability to develop, commercialize and sell products, and could result in the award of substantial damages against us, including treble damages and attorneys fees and costs in the event that we are found to be a willful infringer of third party patents.

In the event of a successful claim of infringement against us, we may be required to obtain one or more licenses from third parties, which we may not be able to obtain at a reasonable cost, if at all. In addition, we could encounter delays in product introductions while we attempt to develop alternative methods or products to avoid infringing third-party patents or proprietary rights. Defense of any lawsuit or failure to obtain any required licenses on favorable terms could prevent us from commercializing our products, and the risk of a prohibition on the sale of any of our products could adversely affect our ability to grow and gain market acceptance for our products.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. In addition, during the course of this kind of litigation, there could be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock.

In addition, our agreements with some of our suppliers, distributors, customers and other entities with whom we do business may require us to defend or indemnify these parties to the extent they become involved in infringement claims against us, including the claims described above. We could also voluntarily agree to defend or indemnify third parties in instances where we are not obligated to do so if we determine it would be important to our business relationships. If we are required or agree to defend or indemnify any of these third parties in connection with any infringement claims, we could incur significant costs and expenses that could adversely affect our business, operating results, or financial condition.

We engage in discussions regarding possible commercial, licensing and cross-licensing agreements with third parties from time to time. For example, we have engaged in such discussions with Caliper Life Sciences regarding its microfluidic patent portfolio and we have engaged in such discussions with Life Technologies regarding the 934 patent and other patents owned by the parties, including patents in the field of digital PCR. There can be no assurance that these discussions will lead to the execution of commercial license or cross-license agreements or that such agreements will be on terms that are favorable to us. In addition, if we enter into cross-licensing agreements, there is no assurance that we will be able to effectively compete against others who are licensed under our patents.

We depend on certain technologies that are licensed to us. We do not control these technologies and any loss of our rights to them could prevent us from selling our products.

We rely on licenses in order to be able to use various proprietary technologies that are material to our business, including our core integrated fluidic circuit and multi-layer soft lithography technologies. We do not own the patents that underlie these licenses. Our rights to use the technology we license are subject to the negotiation of, continuation of and compliance with the terms of those licenses. In some cases, we do not control the prosecution, maintenance, or filing of the patents to which we hold licenses, or the enforcement of these patents against third parties. Some of our patents and patent applications were either acquired from another company who acquired those patents and patent applications from yet another company, or are licensed from a third party. Thus, these patents and patent applications are not written by us or our attorneys, and we did not have control over the drafting and prosecution. The former patent owners and our licensors might not have given the

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same attention to the drafting and prosecution of these patents and applications as we would have if we had been the owners of the patents and applications and had control over the drafting and prosecution. We cannot be certain that drafting and/or prosecution of the licensed patents and patent applications by the licensors have been or will be conducted in compliance with applicable laws and regulations or will result in valid and enforceable patents and other intellectual property rights.

Our rights to use the technology we license is subject to the validity of the owner s intellectual property rights. Enforcement of our licensed patents or defense or any claims asserting the invalidity of these patents is often subject to the control or cooperation of our licensors. Legal action could be initiated against the owners of the intellectual property that we license. Even if we are not a party to these legal actions, an adverse outcome could harm our business because it might prevent these other companies or institutions from continuing to license intellectual property that we may need to operate our business.

Certain of our licenses contain provisions that allow the licensor to terminate the license upon specific conditions. Our rights under the licenses are subject to our continued compliance with the terms of the license, including the payment of royalties due under the license. Termination of these licenses could prevent us from marketing some or all of our products. Because of the complexity of our products and the patents we have licensed, determining the scope of the license and related royalty obligation can be difficult and can lead to disputes between us and the licensor. An unfavorable resolution of such a dispute could lead to an increase in the royalties payable pursuant to the license. If a licensor believed we were not paying the royalties due under the license or were otherwise not in compliance with the terms of the license, the licensor might attempt to revoke the license. If such an attempt were successful, we might be barred from producing and selling some or all of our products.

We are subject to certain manufacturing restrictions related to licensed technologies that were developed with the financial assistance of U.S. governmental grants.

We are subject to certain U.S. government regulations because we have licensed technologies that were developed with U.S. government grants. In accordance with these regulations, these licenses provide that products embodying the technologies will be manufactured substantially in the United States. If this domestic manufacturing requirement is not met, the government agency that funded the relevant grant is entitled to exercise specified rights, referred to as march-in rights , which if exercised would allow the government agency to require the licensors or us to grant a non-exclusive, partially exclusive or exclusive license in any field of use to a third party designated by such agency. All of our microfluidic systems revenue is dependent upon the availability of our chips, which incorporate technology developed with U.S. government grants. As of December 2010, all of our commercial products, including microfluidic systems and chips are manufactured at our facility in Singapore. The federal regulations allow the funding government agency to grant, at the request of the licensors of such technology, a waiver of the domestic manufacturing requirement. Waivers may be requested prior to any government notification. We have assisted the licensor of these technologies with the analysis of the domestic manufacturing requirement, and, in December 2008, the licensor applied for a waiver of the domestic manufacturing requirement with respect to certain patents. In July 2009, the funding government agency granted the requested waiver of the domestic manufacturing requirement for a three year period commencing in July 2009. If in the future it were to be determined that we are in violation of the domestic manufacturing requirement and additional waivers of such requirement was either not requested or not granted, then the U.S. government could exercise its march-in rights. In addition, these licenses contain provisions relating to compliance with this domestic manufacturing requirement. If it were determined that we are not in compliance with these provisions and such non-compliance constituted a material breach of the licenses, the licenses could be terminated. Either the exercise of march-in rights or the termination of one or more of our licenses could materially adversely affect our business, operations and financial condition.

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We may be subject to damages resulting from claims that we or our employees have wrongfully used or disclosed alleged trade secrets of our employees former employers.

Many of our employees were previously employed at universities or other life science or Ag-Bio companies, including our competitors or potential competitors. Although no claims against us are currently pending, we may be subject to claims that these employees or we have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of their former employers. Litigation may be necessary to defend against these claims. If we fail in defending such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. A loss of key research personnel or their work product could hamper or prevent our ability to commercialize certain potential products, which could severely harm our business. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management.

Risks Related to Our Common Stock and this Offering

We expect that our stock price will fluctuate significantly, and you may not be able to resell your shares at or above the initial public offering price.

Prior to this offering, there has been no public market for shares of our common stock. We cannot predict the extent to which investor interest in our company will lead to the development of an active trading market on the NASDAQ Global Market or otherwise or how liquid that market might become. If an active trading market does not develop, you may have difficulty selling any of our shares of common stock that you buy. We and the underwriters will determine the initial public offering price of our common stock through negotiation. This price will not necessarily reflect the price at which investors in the market will be willing to buy and sell our shares following this offering. In addition, the trading price of our common stock following this offering may be highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control. These factors include:

- actual or anticipated quarterly variation in our results of operations or the results of our competitors;
- announcements by us or our competitors of new commercial products, significant contracts, commercial relationships or capital commitments;
- issuance of new or changed securities analysts reports or recommendations for our stock;
- developments or disputes concerning our intellectual property or other proprietary rights;
- commencement of, or our involvement in, litigation;
- market conditions in the life science, Ag-Bio and molecular diagnostics sectors;
- failure to complete significant sales;
- manufacturing disruptions that could occur if we were unable to successfully expand our production in our current or an alternative facility;
- any future sales of our common stock or other securities;

any major change to the composition of our Board or management; and

general economic conditions and slow or negative growth of our markets.

The stock market in general, and market prices for the securities of technology-based companies like ours in particular, have from time to time experienced volatility that often has been unrelated to the operating performance of the underlying companies. A certain degree of stock price volatility can be attributed to being a newly public company. These broad market and industry fluctuations may adversely affect the market price of our common stock, regardless of our operating performance. In several recent situations where the market price of a stock has been volatile, holders of that stock have instituted securities class action litigation against the

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company that issued the stock. If any of our stockholders were to bring a lawsuit against us, the defense and disposition of the lawsuit could be costly and divert the time and attention of our management and harm our operating results.

If securities or industry analysts do not publish research or publish unfavorable research about our business, our stock price and trading volume could decline.

The trading market for our common stock will rely in part on the research and reports that equity research analysts publish about us and our business. We do not currently have and may never obtain research coverage by equity research analysts. Equity research analysts may elect not to provide research coverage of our common stock after the completion of this offering, and such lack of research coverage may adversely affect the market price of our common stock. In the event we obtain equity research analyst coverage, we will not have any control of the analysts or the content and opinions included in their reports. The price of our stock could decline if one or more equity research analysts downgrade our stock or issue other unfavorable commentary or research. If one or more equity research analysts ceases coverage of our company or fails to publish reports on us regularly, demand for our stock could decrease, which in turn could cause our stock price or trading volume to decline.

Purchasers in this offering will experience immediate and substantial dilution in the book value of their investment.

The initial public offering price of our common stock is substantially higher than the net tangible book value per share of our common stock immediately prior to this offering. Therefore, if you purchase our common stock in this offering, you will incur an immediate dilution of $ in net tangible book value per share as of September 30, 2010 from the price you paid, based on an assumed initial public offering price of $ per share, the mid-point of the range set forth on the cover page of this prospectus. In addition, new investors who purchase shares in this offering will contribute approximately % of the total amount of equity capital raised by us through the date of this offering, but will only own approximately % of the outstanding share capital and approximately % of the voting rights. In addition, we have issued options and warrants to acquire common stock at prices below the initial public offering price. To the extent outstanding options and warrants are ultimately exercised, there will be further dilution to investors who purchase shares in this offering. In addition, if the underwriters exercise their over-allotment option or if we issue additional equity securities, investors purchasing shares in this offering will experience additional dilution. For a further description of the dilution that you will experience immediately after this offering, see Dilution.

Future sales of shares by existing stockholders could cause our stock price to decline.

If our existing stockholders sell, or indicate an intention to sell, substantial amounts of our common stock in the public market after the lock-up and other legal restrictions on resale discussed in this prospectus lapse, the trading price of our common stock could decline. Based on shares outstanding as of September 30, 2010, upon completion of this offering, we will have outstanding a total of shares of common stock, assuming no exercise of the underwriters over-allotment option. Of these shares, only the shares of common stock sold in this offering by us will be freely tradable, without restriction, in the public market immediately after the offering. Each of our directors and officers, and certain of our stockholders, have entered into lock-up agreements with the underwriters that restrict their ability to sell or transfer their shares. The lock-up agreements pertaining to this offering will expire 180 days from the date of this prospectus, although they may be extended for up to an additional 34 days under certain circumstances. Our underwriters, however, may, in their sole discretion, permit our officers, directors and other current stockholders who are subject to the contractual lock-up to sell shares prior to the expiration of the lock-up agreements. After the lock-up agreements expire, based on shares outstanding as of September 30, 2010, up to an additional shares of common stock will be eligible for sale in the public market, of which are held by directors and executive officers and will be subject to volume limitations under Rule 144 under the Securities Act and various vesting agreements. In addition, shares of common stock that are subject to outstanding options as of September 30, 2010 will become eligible for

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sale in the public market to the extent permitted by the provisions of various vesting agreements, the lock-up agreements and Rules 144 and 701 under the Securities Act. If these additional shares are sold, or if it is perceived that they will be sold, in the public market, the trading price of our common stock could decline.

Our directors and executive officers will continue to have substantial control over us after this offering and could limit your ability to influence the outcome of key transactions, including changes of control.

Following the completion of this offering, our executive officers, directors and their affiliates will beneficially own or control approximately % of the outstanding shares of our common stock, assuming no exercise of the underwriters over-allotment option. Accordingly, these executive officers, directors and their affiliates, acting as a group, will have substantial influence over the outcome of corporate actions requiring stockholder approval, including the election of directors, any merger, consolidation or sale of all or substantially all of our assets or any other significant corporate transactions. These stockholders may also delay or prevent a change of control of us, even if such a change of control would benefit our other stockholders. The significant concentration of stock ownership may adversely affect the trading price of our common stock due to investors perception that conflicts of interest may exist or arise. For information regarding the ownership of our outstanding stock by our executive officers and directors and their affiliates, see Principal Stockholders.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of us, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management and limit the market price of our common stock.

Provisions in our certificate of incorporation and bylaws, as amended and restated upon the closing of this offering, may have the effect of delaying or preventing a change of control or changes in our management. Our amended and restated certificate of incorporation and amended and restated bylaws to become effective upon completion of this offering include provisions that:

- authorize our board of directors to issue, without further action by the stockholders, up to 20,000,000 shares of undesignated preferred stock;
- require that any action to be taken by our stockholders be effected at a duly called annual or special meeting and not by written consent;
- specify that special meetings of our stockholders can be called only by our board of directors, the Chairman of the board, the Chief Executive Officer or the President;
- establish an advance notice procedure for stockholder approvals to be brought before an annual meeting of our stockholders, including proposed nominations of persons for election to our board of directors;
- establish that our board of directors is divided into three classes, Class I, Class II and Class III, with each class serving staggered three year terms;
- provide that our directors may be removed only for cause;
- provide that vacancies on our board of directors may be filled only by a majority of directors then in office, even though less than a quorum;
- specify that no stockholder is permitted to cumulate votes at any election of directors; and

require a super-majority of votes to amend certain of the above-mentioned provisions.

These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, which is responsible for appointing the members of our management. In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which limits the ability of stockholders owning in excess of 15% of our outstanding voting stock to merge or combine with us.

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We have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

We will have broad discretion in the application of the net proceeds from this offering and could spend the proceeds in ways that do not improve our results of operations or enhance the value of our common stock. We intend to use the net proceeds from this offering for sales and marketing initiatives, including significantly expanding our sales force, to support the ongoing commercialization of our products; for research and product development activities; for expansion of our facilities and manufacturing operations; and for working capital and other general corporate purposes. We may also use a portion of our net proceeds to acquire and invest in complementary products, technologies or businesses; however, we currently have no agreements or commitments to complete any such transaction. We have not allocated these net proceeds for any specific purposes. We might not be able to yield a significant return, if any, on any investment of these net proceeds. You will not have the opportunity to influence our management s decisions on how to use the net proceeds from this offering, and our failure to apply these funds effectively could have a material adverse effect on our business, delay the development of our product candidates and cause the price of our common stock to decline.

We have never paid dividends on our capital stock, and we do not anticipate paying any cash dividends in the foreseeable future.

We have paid no cash dividends on any of our classes of capital stock to date, have contractual restrictions against paying cash dividends and currently intend to retain our future earnings to fund the development and growth of our business. As a result, capital appreciation, if any, of our common stock will be your sole source of gain for the foreseeable future.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus includes forward-looking statements that relate to future events or our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to differ materially from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. Words such as, but not limited to, believe, expect, anticipate, estimate, intend, plan, targets, likely, will, would, could, and phrases, or the negative of those expressions or phrases identify forward-looking statements. Although we believe that we have a reasonable basis for each forward-looking statement contained in this prospectus, we caution you that these statements are based on our projections of the future that are subject to known and unknown risks and uncertainties and other factors that may cause our actual results, level of activity, performance or achievements expressed or implied by these forward-looking statements, to differ. The sections in this prospectus entitled Risk Factors, Management s Discussion and Analysis of Financial Condition and Results of Operations and Business, as well as other sections in this prospectus, discuss some of the factors that could contribute to these differences.

Other unknown or unpredictable factors also could harm our results. Consequently, actual results or developments anticipated by us may not be realized or, even if substantially realized, may not have the expected consequences to, or effects on, us. Given these uncertainties, prospective investors are cautioned not to place undue reliance on such forward-looking statements. Except as required by law, we undertake no obligation to update or revise publicly any of the forward-looking statements after the date of this prospectus.

This prospectus contains market data that we obtained from industry sources. These sources do not guarantee the accuracy or completeness of the information. Although we believe that the industry sources are reliable, we have not independently verified the information. The market data include projections that are based on a number of other projections. While we believe these assumptions to be reasonable and sound as of the date of this prospectus, actual results may differ from the projections.

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USE OF PROCEEDS

We estimate that the net proceeds from the sale of shares of our common stock that we are selling in this offering will be $ million, based on an assumed initial public offering price of $ per share, the midpoint of the range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. A $1.00 increase (decrease) in the assumed initial public offering price would increase (decrease) the net proceeds to us by $ million, after deducting estimated underwriting discounts and commissions and estimated offering expenses, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same. We may also increase or decrease the number of shares we are offering. An increase of 1.0 million shares in the number of shares offered by us would increase the net proceeds to us by $ million. Similarly, a decrease of 1.0 million shares in the number of shares offered by us would decrease the net proceeds to us by $ million. If the underwriters over-allotment option is exercised in full, we estimate that we will receive net proceeds of $ million.

Of the net proceeds that we will receive from this offering, we expect to use approximately:

- $ million for sales and marketing initiatives, including significantly expanding our sales force, to support the ongoing commercialization of our products;
- $ million for research and product development activities;
- $ million for expansion of our facilities and manufacturing operations; and
- the balance for working capital and other general corporate purposes.

We may also use a portion of our net proceeds to acquire and invest in complementary products, technologies or businesses; however, we currently have no agreements or commitments to complete any such transaction and are not involved in negotiations to do so. Pending these uses, we intend to invest our net proceeds from this offering primarily in investment-grade, interest-bearing instruments.

As of the date of this prospectus, we cannot specify with certainty all of the particular uses for the net proceeds to be received upon the completion of this offering. The amount and timing of our expenditures will depend on several factors, including cash flows from our operations and the anticipated growth of our business. Accordingly, our management will have broad discretion in the application of the net proceeds and investors will be relying on the judgment of our management regarding the application of the proceeds from this offering. We reserve the right to change the use of these proceeds as a result of certain contingencies such as the results of our commercialization efforts, competitive developments, opportunities to acquire products, technologies or businesses and other factors.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock. We currently intend to retain all future earnings for the operation and expansion of our business and, therefore, we do not anticipate declaring or paying cash dividends in the foreseeable future. In addition, we are subject to several covenants under our debt arrangements that place restrictions on our ability to pay dividends. The payment of dividends will be at the discretion of our Board of Directors and will depend on our results of operations, capital requirements, financial condition, prospects, contractual arrangements, any limitations on payment of dividends present in our current and future debt agreements, and other factors that our Board of Directors may deem relevant.

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CAPITALIZATION

The following table sets forth our capitalization as of September 30, 2010:

- on an actual basis;
- on a pro forma basis to give effect to the conversion of all outstanding shares of convertible preferred stock into common stock and the reclassification of the convertible preferred stock warrant liabilities to additional paid-in capital, each effective upon the closing of this offering; and
- on a pro forma as adjusted basis to also give effect to the pro forma conversions and reclassifications described above and the sale of shares of our common stock in this offering at the assumed initial public offering price of $ per share, the midpoint of the range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

You should read this table together with Management s Discussion and Analysis of Financial Condition and Results of Operations and our consolidated financial statements and related notes included elsewhere in this prospectus.

	As of September 30, 2010		
	Actual	Pro Forma	Pro Forma as Adjusted(1)
	(unaudited, in thousands, except per share amounts)		
Long-term debt, net of current portion	$ 11,590	$ 11,590	$
Convertible preferred stock warrant liabilities	397		
Convertible preferred stock issuable in series: $0.0035 par value, 20,001 shares authorized, 17,813 shares issued and outstanding (actual); no shares authorized, issued or outstanding (pro forma and pro forma as adjusted)	184,549		
Stockholders equity (deficit):			
Common stock: $0.0035 par value, 29,253 shares authorized, 3,346 shares issued and outstanding (actual); $0.0035 par value, 29,253 shares authorized, 21,159 shares issued and outstanding (pro forma); $ par value, shares authorized, shares issued and outstanding (pro forma as adjusted)	12	74	
Preferred stock: $0.0035 par value, no shares authorized, issued or outstanding (actual and pro forma); $ par value, shares authorized, no shares issued or outstanding (pro forma as adjusted)			
Additional paid-in capital(1)	10,594	195,478	
Accumulated other comprehensive loss	(752)	(752)	
Accumulated deficit	(196,249)	(196,249)	
Total stockholders (deficit) equity (1)	(186,395)	(1,449)	
Total capitalization(1)	$ 10,141	$ 10,141	

(1) A $1.00 increase (decrease) in the assumed initial public offering price of $ per share, the midpoint of the range set forth on the cover page of this prospectus, would increase (decrease) each of additional paid-in capital, total stockholders equity and total capitalization by $ million, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same. Each increase of 1.0 million shares in the number of shares offered by us would increase additional paid-in capital, total stockholders equity and total capitalization by approximately $ million. Similarly, each decrease of 1.0 million shares in the number of shares offered by us, would decrease additional paid-in capital, total stockholders equity and total capitalization by approximately $ million. The pro forma as adjusted information discussed above is illustrative only and will be adjusted based on the actual public offering price and terms of

this offering determined at pricing.

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The table above excludes the following shares:

- 3,195,172 shares of common stock issuable upon exercise of options outstanding as of September 30, 2010, at a weighted average exercise price of $2.42 per share;

- 668,845 shares of common stock issuable upon the exercise of warrants outstanding as of September 30, 2010, at a weighted average exercise price of $10.03 per share, after conversion of our convertible preferred stock;

- shares of common stock reserved for future issuance under our stock-based compensation plans, including shares of common stock reserved for issuance under our 2011 Equity Incentive Plan, and any future increase in shares reserved for issuance under such plan, each of which will become effective on the date of this prospectus; and

- 417 shares of common stock that were issued and outstanding but were not included in stockholders deficit as of September 30, 2010, pursuant to accounting principles generally accepted in the United States, as these shares were subject to a right of repurchase by us.

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DILUTION

If you invest in our common stock, your interest will be diluted to the extent of the difference between the amount per share paid by purchasers of shares of common stock in this initial public offering and the pro forma as adjusted net tangible book value per share of common stock immediately after completion of this offering.

Our pro forma net tangible book deficit as of September 30, 2010 in the amount of $ million, or $ per share, was based on the total number of shares of our common stock outstanding as of September 30, 2010, after giving effect to the conversion of all outstanding shares of our convertible preferred stock into common stock and the reclassification of the convertible preferred stock warrant liabilities to additional paid-in capital, each effective upon the closing of this offering.

After giving effect to our sale of shares of common stock in this offering at an assumed initial public offering price of $ per share, the midpoint of the range set forth on the cover page of this prospectus, and after deducting the estimated underwriting discounts and commissions and estimated offering expenses, our pro forma as adjusted net tangible book value as of September 30, 2010 would have been $ million, or $ per share. This represents an immediate increase in net tangible book value of $ per share to existing stockholders and an immediate dilution in net tangible book value of $ per share to purchasers of common stock in this offering, as illustrated in the following table:

Assumed initial public offering price per share		$
Pro forma net tangible book deficit per share as of September 30, 2010	$	
Increase in pro forma as adjusted net tangible book value per share attributable to new investors	$	
Pro forma as adjusted net tangible book value per share after this offering		$
Pro forma dilution per share to new investors in this offering		$

Each $1.00 increase (decrease) in the assumed public offering price of $ per share, the midpoint of the range set forth on the cover of this prospectus, would increase (decrease) our pro forma as adjusted net tangible book value by approximately $ million, or approximately $ per share, and the pro forma dilution per share to investors in this offering by approximately $ per share, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. An increase of 1.0 million shares in the number of shares offered by us, would result in a pro forma as adjusted net tangible book value of approximately $ million, or $ per share, and the pro forma dilution per share to investors in this offering would be $ per share. Similarly, a decrease of 1.0 million shares in the number of shares offered by us, would result in an pro forma as adjusted net tangible book value of approximately $ million, or $ per share, and the pro forma dilution per share to investors in this offering would be $ per share. The pro forma as adjusted information discussed above is illustrative only and will be adjusted based on the actual public offering price and other terms of this offering determined at pricing.

If the underwriters over-allotment option is exercised in full, the pro forma as adjusted net tangible book value per share after this offering would be $ per share, the increase in pro forma as adjusted net tangible book value per share to existing stockholders would be $ per share and the dilution to new investors purchasing shares in this offering would be $ per share.

The following table presents on a pro forma as adjusted basis as of September 30, 2010, after giving effect to the automatic conversion of all outstanding shares of convertible preferred stock into common stock, the differences between the existing stockholders and the purchasers of shares in this offering with respect to the

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number of shares purchased from us, the total consideration paid, which includes net proceeds received from the issuance of common and convertible preferred stock, cash received from the exercise of stock options, the value of any stock issued for services and the proceeds from the issuance of convertible promissory notes which were subsequently converted to shares of convertible preferred stock, and the average price paid per share (in thousands, except per share amounts and percentages):

	Shares Purchased		Total Consideration(1)		Average Price
	Number	Percent	Amount	Percent	per Share
Existing stockholders	21,159	%		%	
New investors					
Totals		100.0%	$	%	$

(1) Each $1.00 increase (decrease) in the assumed initial public offering price of $ per share, the midpoint of the range set forth on the cover page of this prospectus, would increase (decrease) the total consideration paid to us by new investors and total consideration paid to us by all stockholders by $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. An increase of 1.0 million shares in the number of shares offered by us would increase the total consideration paid to us by new investors and total consideration paid to us by all stockholders by $ million. Similarly, a decrease of 1.0 million shares in the number of shares offered by us would decrease the total consideration paid to us by new investors and total consideration paid to us by all stockholders by $ million.

If the underwriters exercise their over-allotment option in full, our existing stockholders would own % and our new investors would own % of the total number of shares of our common stock outstanding after this offering.

The table above excludes the following shares:

- 3,195,172 shares of common stock issuable upon exercise of options outstanding as of September 30, 2010, at a weighted average exercise price of $2.42 per share;
- 668,845 shares of common stock issuable upon the exercise of warrants outstanding as of September 30, 2010, at a weighted average exercise price of $10.03 per share, after conversion of our convertible preferred stock;
- shares of common stock reserved for future issuance under our stock-based compensation plans, including shares of common stock reserved for issuance under our 2011 Equity Incentive Plan, and any future increase in shares reserved for issuance under such plan, each of which will become effective on the date of this prospectus; and
- 417 shares of common stock that were issued and outstanding but were not included in stockholders deficit as of September 30, 2010, pursuant to accounting principles generally accepted in the United States, as these shares were subject to a right of repurchase by us.

To the extent that any of these options or warrants are exercised, new options are issued under our stock-based compensation plans or we issue additional shares of common stock in the future, there will be further dilution to investors participating in this offering.

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SELECTED CONSOLIDATED FINANCIAL DATA

We have derived the selected consolidated statement of operations data for the years ended December 29, 2007, December 27, 2008 and December 31, 2009, and the selected consolidated balance sheet data as of December 27, 2008 and December 31, 2009 from our audited consolidated financial statements included elsewhere in this prospectus. The report of our independent registered public accounting firm on our consolidated financial statements for the year ended December 31, 2009, which appears elsewhere in this prospectus, includes an explanatory paragraph that describes an uncertainty about our ability to continue as a going concern. We have derived the summary consolidated statement of operations data for the nine months ended September 30, 2009 and 2010, and the consolidated balance sheet data as of September 30, 2010 from our unaudited consolidated financial statements included elsewhere in this prospectus. We have derived the selected consolidated statement of operations data for the years ended December 31, 2005 and 2006 and the selected consolidated balance sheet data as of December 31, 2005 and 2006 and December 29, 2007 from our audited consolidated financial statements not included in this prospectus. Our historical results are not necessarily indicative of the results to be expected for any future period. The following selected consolidated financial data should be read in conjunction with Management s Discussion and Analysis of Financial Condition and Results of Operations and our consolidated financial statements and related notes included elsewhere in this prospectus.

	Year Ended					Nine Months Ended	
	December 31, 2005	December 31, 2006	December 29, 2007	December 27, 2008	December 31, 2009	September 30, 2009	September 30, 2010
	(in thousands, except per share amounts)						
Consolidated Statement of Operations Data:							
Revenue:							
Product revenue	$ 6,076	$ 3,959	$ 4,451	$ 13,364	$ 23,599	$ 16,369	$ 20,883
Collaboration revenue	1,568	1,376	460	70			975
Grant revenue	30	1,063	2,364	1,913	1,813	1,420	1,347
Total revenue	7,674	6,398	7,275	15,347	25,412	17,789	23,205
Costs and expenses:							
Cost of product revenue	4,764	2,773	3,514	8,364	11,486	8,404	7,999
Research and development	11,449	15,589	14,389	14,015	12,315	9,249	10,097
Selling, general and administrative	7,955	9,699	12,898	22,511	19,648	14,386	17,672
Total costs and expenses	24,168	28,061	30,801	44,890	43,449	32,039	35,768
Loss from operations	(16,494)	(21,663)	(23,526)	(29,543)	(18,037)	(14,250)	(12,563)
Interest expense	(898)	(2,261)	(2,790)	(2,031)	(2,876)	(1,849)	(1,620)
Gain (loss) from changes in the fair value of convertible preferred stock warrants, net	72	(139)	(245)	769	(135)	180	210
Interest income	340	565	1,140	766	37	33	7
Other income (expense), net	(42)	(55)	75	393	1,833	189	284
Loss before income taxes and cumulative of change in accounting principle	(17,022)	(23,553)	(25,346)	(29,646)	(19,178)	(15,697)	(13,682)
(Provision) benefit for income taxes			(105)	147	50	(3)	(142)
Loss before cumulative effect of change in accounting principle	(17,022)	(23,553)	(25,451)	(29,499)	(19,128)	(15,700)	(13,824)
Cumulative effect of change in accounting principle	637						
Net loss	$ (16,385)	$ (23,553)	$ (25,451)	$ (29,499)	$ (19,128)	$ (15,700)	$ (13,824)
Net loss per share of common stock, basic and diluted(1)	$ (6.35)	$ (8.82)	$ (9.21)	$ (10.32)	$ (6.37)	$ (5.34)	$ (4.26)

Shares used in computing net loss per share of common stock, basic and diluted(1)	2,580	2,671	2,765	2,859	3,004	2,939	3,246
Pro forma net loss per share of common stock, basic and diluted (unaudited)(1)					$ (0.96)		$ (0.67)
Shares used in computing pro forma net loss per share of common stock, basic and diluted (unaudited)(1)					19,710		20,975

(1) Please see Note 2 to our audited consolidated financial statements for an explanation of the method used to calculate basic and diluted net loss per share and basic and diluted pro forma net loss per share of common stock for the year ended December 31, 2009. Please see Note 1 to our interim condensed consolidated financial statements for an explanation of the method used to calculate basic and diluted net loss per share and basic and diluted pro forma net loss per share of common stock for the nine months ended September 30, 2010.

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	As of					
	December 31, 2005	December 31, 2006	December 29, 2007	December 27, 2008	December 31, 2009	September 30, 2010
	(in thousands)					
Consolidated Balance Sheet Data:						
Cash, cash equivalents and available for sale securities	$ 19,659	$ 25,518	$ 40,363	$ 17,796	$ 14,602	$ 5,083
Working capital	14,764	23,939	38,754	20,704	21,354	6,817
Total assets	27,750	36,493	54,776	32,354	32,153	22,090
Total long-term debt	16,800	12,838	9,362	15,212	14,461	14,610
Convertible promissory notes		13,072	4,997			
Convertible preferred stock warrants	814	223	468	141	616	397
Convertible preferred stock	88,966	112,295	162,082	167,538	183,845	184,549
Total stockholders deficit	(83,154)	(106,172)	(130,331)	(158,339)	(173,619)	(186,395)

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MANAGEMENT S DISCUSSION AND ANALYSIS OF

FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of the financial condition and results of our operations should be read in conjunction with the consolidated financial statements and related notes included elsewhere in this prospectus. This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could 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 included elsewhere in this prospectus.

Overview

We develop, manufacture and market microfluidic systems for growth markets in the life science and agricultural biotechnology, or Ag-Bio, industries. Our proprietary microfluidic systems consist of instruments and consumables, including chips and reagents. These systems are designed to significantly simplify experimental workflow, increase throughput and reduce costs, while providing the excellent data quality demanded by customers. In addition, our proprietary technology enables genetic analysis that in many instances was previously impractical. We actively market three microfluidic systems including eight different commercial chips to leading pharmaceutical and biotechnology companies, academic institutions, diagnostic laboratories and Ag-Bio companies. We have sold systems to over 200 customers in over 20 countries worldwide.

Our total revenue grew from $6.4 million in 2006 to $25.4 million in 2009 and was $23.2 million in the nine months ended September 30, 2010. We have incurred significant net losses since our inception in 1999 and, as of September 30, 2010, our accumulated deficit was $196.2 million.

In 2003, we introduced our first product line, the TOPAZ system for protein crystallization. In the fourth quarter of 2006, we launched our BioMark system for gene expression analysis, genotyping and digital PCR. In the third quarter of 2008, we launched our EP1 system for SNP genotyping and digital PCR. In the third quarter of 2009, we launched our Access Array system for target enrichment that is compatible with all currently marketed next generation DNA sequencers. In the third quarter of 2010, we launched our multi-use chips for high-throughput genotyping. Our systems are based on one or more chips designed for particular applications and include specialized instrumentation and software, as well as reagents for certain applications.

We distribute our microfluidic systems through our direct sales force and support organizations located in North America, Europe and Asia-Pacific and through distributors or sales agents in several European, Latin American and Asia-Pacific countries. Our manufacturing operations are located in Singapore. Our facility in Singapore manufactures our instruments and fabricates all of our chips for commercial sale and some chips for our own research and development purposes. Our South San Francisco facility fabricates chips for our own research and development purposes.

Since 2002, we have received revenue from government grants. Our most significant grant relationship has been with the Singapore Economic Development Board, or EDB. The EDB, an agency of the Government of Singapore, promotes research, development and manufacturing activities in Singapore and associated employment of Singapore nationals by providing incentive grants to companies willing to conduct operations in Singapore and satisfy the requirements of EDB s government programs. Under our agreements with EDB, we are eligible to receive incentive grant payments from EDB, provided we satisfy certain agreed upon targets. Our agreements with EDB provide for incentive funding eligibility through May 2011. From January 1, 2007 through September 30, 2010, we recognized $6.0 million of grant revenue from EDB.

Fiscal Year Presentation

Our 2007 and 2008 fiscal years were based on a 52- or 53-week convention and, accordingly, our 2007 fiscal year refers to the year ended on December 29, 2007, and our 2008 fiscal year refers to the year ended on

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December 27, 2008. During 2009, we adopted the calendar year as our fiscal year and, accordingly, our 2009 fiscal year refers to the year ended on December 31, 2009.

Critical Accounting Policies, Significant Judgments and Estimates

Our consolidated financial statements and the related notes included elsewhere in this prospectus are prepared in accordance with accounting principles generally accepted in the United States. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, costs and expenses and related disclosures. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. Changes in accounting estimates may occur from period to period. Accordingly, actual results could differ significantly from the estimates made by our management. We evaluate our estimates and assumptions on an ongoing basis. To the extent that there are material differences between these estimates and actual results, our future financial statement presentation, financial condition, results of operations and cash flows will be affected.

We believe that the following critical accounting policies involve a greater degree of judgment and complexity than our other accounting policies. Accordingly, these are the policies we believe are the most critical to understanding and evaluating our consolidated financial condition and results of operations. Our accounting policies are more fully described in Note 2 of the notes to our audited consolidated financial statements and Note 1 of the notes to our interim consolidated financial statements included elsewhere in this prospectus.

Revenue Recognition

We generate revenue from sales of our products, license arrangements, research and development contracts, collaboration agreements and government grants. Our products consist of instruments and consumables, including chips and reagents, related to our microfluidic systems. Product revenue includes services for instrument installation, training and customer support services. We also have entered into collaboration, license, and research and development contracts and have received government grants to conduct research and development activities.

Revenue is recognized when all of the following criteria are met: persuasive evidence of an arrangement exists, delivery has occurred or services have been rendered, the price to the buyer is fixed or determinable and collectibility is reasonably assured. The evaluation of these revenue recognition criteria requires significant management judgment. For instance, we use judgment to assess collectibility based on factors such as the customer s creditworthiness and past collection history, if applicable. If we determine that collection of a payment is not reasonably assured, revenue recognition is deferred until receipt of payment. We also use judgment to assess whether a price is fixed or determinable including but not limited to, reviewing contractual terms and conditions related to payment terms.

Some of our sales contracts, which include those for our BioMark systems, involve the delivery or performance of multiple products or services within contractually binding arrangements. Significant contract interpretation is sometimes required to determine the appropriate accounting, including whether the deliverables specified in a multiple element arrangement should be treated as separate units of accounting for revenue recognition purposes, and, if so, how the related sales price should be allocated among the elements, when to recognize revenue for each element, and the period over which revenue should be recognized. Revenue recognition for contracts with multiple deliverables is based on the individual units of accounting determined to exist in the contract. A delivered element is considered a separate unit of accounting when the delivered element has value to the customer on a stand-alone basis. Elements are considered to have stand-alone value when they are sold separately or when the customer could resell the element on a stand-alone basis.

We recognize revenue for delivered elements only when we determine that the fair values of undelivered elements are known. If the fair value of an undelivered element cannot be objectively determined, revenue will

be deferred until all elements are delivered, or until fair value can objectively be determined for any remaining undelivered elements. We use judgment to evaluate whether there is vendor specific objective evidence, or VSOE, of fair value of the undelivered elements, determined by reference to stand-alone sales of such elements.

For a multiple element arrangement that includes both chips and instruments, we separate these elements into separate units of accounting as we consider these elements to have stand alone value to the customer. We do not sell software separately; however, we offer post-contract software support services for certain of our instruments that contain software that is essential to their functionality. If the only undelivered element is post-contract software support services for which VSOE has not been established, the entire arrangement consideration is recognized ratably over the service period. The corresponding costs of products sold under multiple element revenue arrangements are recognized consistent with the related revenue recognition.

During 2007 and the six months ended June 28, 2008, we did not have VSOE of fair value for post-contract software support services. Therefore revenue and the corresponding costs were deferred and recognized over the post-contract software support period.

Beginning in the third quarter of 2008, we established VSOE of fair value for post-contract software support services and began recognizing revenue for the fair value of the delivered element of an arrangement upon installation.

Until the third quarter of 2009, installation was considered to be essential to the functionality of our BioMark instruments and, accordingly, revenue recognition for these instruments began upon installation.

During the third quarter of 2009, we began shipping our BioMark instruments in a fully assembled and calibrated form and concluded that installation was no longer essential to the functionality of these instruments. The installation process for our instruments may be performed by the customer or an independent third party. Therefore, we treat the instruments and installation as separate units of accounting. As a result, beginning in the fourth quarter of 2009, instrument revenue is recognized upon delivery, provided that other applicable revenue recognition criteria have been satisfied. Installation revenue is recognized when the installation service is complete.

Revenues from the sales of our products that are not part of multiple element arrangements are recognized when no significant obligations remain undelivered and collection of the receivables is reasonably assured, which is generally when delivery has occurred. Delivery occurs when there is a transfer of title and risk of loss passes to the customer.

Accruals for estimated warranty expenses are provided for at the time that the associated revenue is recognized. We use judgment to estimate these accruals and, if we were to experience an increase in warranty claims or if costs of servicing our products under warranty were greater than our estimates, our cost of product revenue could be adversely affected in future periods.

We have entered into collaboration and research and development arrangements that generally provide us with up-front and periodic milestone fees or fees based on agreed upon rates for time incurred by our research staff. For collaboration and research and development agreements, up-front fees are generally recognized over the term of the agreement; milestone fees are generally recognized when the milestones are achieved; and fees based on agreed-upon rates for time incurred by our research staff are recognized as time is incurred on the project.

Revenue from government grants relates to the achievement of agreed upon milestones and expenditures and is recognized in the period in which the related costs are incurred, provided that the conditions under which the government grants are awarded have been substantially met and only perfunctory obligations remain outstanding. With respect to the EDB grants, we receive incentive grant payments upon satisfaction of grant conditions in amounts equal to a portion of the qualifying expenses we incur in Singapore. Qualifying expenses

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include salaries, overhead, outsourcing and subcontracting expenses, operating expenses and royalties paid. Expenses not qualifying for the incentive grant program include raw materials purchases. We submit requests to EDB for incentive grant payments on a quarterly basis, and these requests are subject to EDB s review and our satisfaction of the grant conditions.

Changes in judgments and estimates regarding application of these revenue recognition guidelines as well as changes in facts and circumstances could result in a change in the timing or amount of revenue recognized in future periods.

Stock-Based Compensation

We measure the cost of employee services received in exchange for an award of equity instruments, including stock options, based on the grant date fair value of the award. The fair value of options on the grant date is estimated using the Black-Scholes option-pricing model, which requires the use of certain subjective assumptions including expected term, volatility, risk-free interest rate and the fair value of our common stock. These assumptions generally require significant judgment.

The resulting costs, net of estimated forfeitures, are recognized over the period during which an employee is required to provide service in exchange for the award, usually the vesting period. We amortize the fair value of stock-based compensation on a straight-line basis over the requisite service periods.

For performance-based stock options, we recognize stock-based compensation over the requisite service periods using the accelerated attribution method.

We account for stock options issued to nonemployees at their estimated fair value determined using the Black-Scholes option-pricing model. The fair value of the options granted to nonemployees is remeasured as they vest, and the resulting change in value, if any, is recognized as expense during the period the related services are rendered.

Our expected volatility is derived from the historical volatilities of several unrelated public companies within the life science industry because we have little information on the volatility of the price of our common stock since we have no trading history. When making the selections of our industry peer companies to be used in the volatility calculation, we also considered the stage of development, size and financial leverage of potential comparable companies. These historical volatilities are weighted based on certain qualitative factors and combined to produce a single volatility factor. The risk-free interest rate is based on the U.S. Treasury yield in effect at the time of grant for zero coupon U.S. Treasury notes with maturities approximately equal to each grant s expected life. We estimate the expected lives of employee options using the simplified method as the mid-point of the expected time-to-vest and the contractual term. For out of the money option grants, we estimate the expected lives based on the mid-point of the expected time to a liquidity event and the contractual term.

The fair value of each new employee option awarded was estimated on the grant date for the periods below using the Black-Scholes option-pricing model with the following assumptions:

	Fiscal Year			Nine Months Ended September 30,	
	2007	2008	2009	2009	2010
Expected volatility	63.0%	53.8%	59.1%	55.0%	59.3%
Expected life	6.0 years	6.0 years	5.7 years	6.1 years	5.8 years
Risk-free interest rate	4.4%	3.2%	2.4%	1.6%	2.1%
Dividend yield	0%	0%	0%	0%	0%

If in the future we determine that another method is more reasonable, or if another method for calculating these input assumptions is prescribed by authoritative guidance, and, therefore, should be used to estimate

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expected volatility or expected life, the fair value calculated for our stock options could change significantly. Higher volatility and longer expected lives result in an increase to stock-based compensation expense determined at the date of grant. Stock-based compensation expense affects our cost of product revenue, research and development expense, and selling, general and administrative expense.

We estimate our forfeiture rate based on an analysis of our actual forfeitures and will continue to evaluate the appropriateness of the forfeiture rate based on actual forfeiture experience, analysis of employee turnover behavior and other factors. Quarterly changes in the estimated forfeiture rate can have a significant effect on reported stock-based compensation expense, as the cumulative effect of adjusting the rate for all expense amortization is recognized in the period the forfeiture estimate is changed. If a revised forfeiture rate is higher than the previously estimated forfeiture rate, an adjustment is made that will result in a decrease to the stock-based compensation expense recognized in the consolidated financial statements. If a revised forfeiture rate is lower than the previously estimated forfeiture rate, an adjustment is made that will result in an increase to the stock-based compensation expense recognized in the consolidated financial statements. The effect of forfeiture adjustments was insignificant during 2007, 2008, 2009 and the nine months ended September 30, 2010. We will continue to use judgment in evaluating the expected term, volatility and forfeiture rate related to our stock-based compensation.

Also required to compute the fair value calculation of options is the fair value of the underlying common stock. We have historically granted stock options with exercise prices no less than the fair value of our common stock as determined at the date of grant by our Board of Directors with input from management. The following table summarizes, by grant date, the number of stock options granted since January 1, 2009 and the associated per share exercise price, which was not less than the fair value of our common stock for each of these grants.

Grant Date	Number of Options Granted	Exercise Price Per Share of Common Stock	Fair Value Per Share of Common Stock
November 17, 2009	520,323	$ 2.36	$ 2.36
December 23, 2009	1,385,096	$ 2.57	$ 2.57
January 28, 2010	98,300	$ 2.57	$ 2.57
May 6, 2010	258,600	$ 2.57	$ 1.82
August 26, 2010	283,250	$ 2.57	$ 1.98

Given the absence of an active market for our common stock prior to this offering, our Board of Directors determined the estimated fair value of our common stock based on an analysis of relevant metrics, including the following:

- the contemporaneous valuations of our common stock by an unrelated third party;
- the prices of our convertible preferred stock sold to outside investors in arms-length transactions;
- the rights, preferences and privileges of our convertible preferred stock relative to those of our common stock;
- the rights of freestanding warrants and other similar instruments related to shares that are redeemable;
- our operating and financial performance;
- our capital resources and financial condition;
- the hiring of key personnel;

the introduction of new products;

our stage of development;

the fact that the option grants involve illiquid securities in a private company;

the risks inherent in the development and expansion of our products and services; and

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the likelihood of achieving a liquidity event, such as an initial public offering or sale of our company given prevailing market conditions.

For all grants of stock options during the periods for which financial statements are included in this prospectus, our board of directors determined the fair value of our common stock based on an evaluation of the factors discussed above as of the date of each grant, including a contemporaneous unrelated third-party valuation of our common stock.

The unrelated third-party valuations were prepared using the income or discounted cash flow approach to estimate our aggregate enterprise value at each valuation date. The income approach measures the value of a company as the present value of its future economic benefits by applying an appropriate risk-adjusted discount rate to expected cash flows, based on forecasted revenue and costs. We prepared a financial forecast for each valuation date to be used in the computation of the enterprise value for the income approach. The financial forecasts took into account our past experience and future expectations. The risks associated with achieving these forecasts were assessed in selecting the appropriate discount rate. There is inherent uncertainty in these estimates.

In order to arrive at the estimated fair value of our common stock, the indicated enterprise value of our company calculated at each valuation date using the income approach was allocated to the shares of convertible preferred stock and the warrants to purchase these shares, and shares of common stock and the options to purchase these shares using an option-pricing methodology. The option-pricing method treats common stock and preferred stock as call options on the total equity value of a company, with exercise prices based on the value thresholds at which the allocation among the various holders of a company s securities changes. Under this method, the common stock has value only if the funds available for distribution to stockholders exceed the value of the liquidation preference at the time of a liquidity event, such as a strategic sale, merger or initial public offering, assuming the enterprise has funds available to make a liquidation preference meaningful and collectable by the holders of preferred stock. The common stock is modeled as a call option on the underlying equity value at a predetermined exercise price. In the model, the exercise price is based on a comparison with the total equity value rather than, as in the case of a regular call option, a comparison with a per share stock price. Thus, common stock is considered to be a call option with a claim on the enterprise at an exercise price equal to the remaining value immediately after the preferred stock is liquidated. The option-pricing method uses the Black-Scholes option-pricing model to price the call options. This model defines the securities fair values as functions of the current fair value of a company and uses assumptions such as the anticipated timing of a potential liquidity event, marketability, cost of capital and the estimated volatility of the equity securities. The anticipated timing of a liquidity event utilized in these valuations was based on then-current plans and estimates of our Board of Directors and management regarding a liquidity event. Estimates of the volatility of our stock were based on available information on the volatility of capital stock of comparable publicly traded companies. This approach is consistent with the methods outlined in the AICPA Practice Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation*. Also, the valuation firm considered the fact that our stockholders cannot freely trade our common stock in the public markets. Therefore, the estimated fair value of our common stock at each grant date reflected a non-marketability discount.

There is inherent uncertainty in these estimates and if we or the valuation firm had made different assumptions than those described above, the amount of our stock-based compensation expense, net loss and net loss per share amounts could have been significantly different.

Our board of directors obtained contemporaneous valuations from an unrelated third-party valuation firm in connection with each of the following grants, which it considered together with the other factors discussed above, to determine the fair value of our common stock on each grant date. Our board of directors determined a fair value of $2.36 per share of our common stock for grants made on November 17, 2009. For the grant of options on December 23, 2009 and January 28, 2010, our board determined a fair value of $2.57 per share of our common stock on both such dates. The increase in fair value between November 17, 2009 and the grants on December 23, 2009 and January 28, 2010 related primarily to the passage of time which meant that future cash

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flows were discounted over a shorter period under the income approach. For the grant of options on May 6, 2010, our board determined a fair value of $1.82 per share of our common stock; however, options were granted by our board on May 6, 2010 at a price per share of $2.57 based on the board s decision to maintain equality in exercise price with the recipients of grants on December 23, 2009. The decrease in fair value between January 28, 2010 and May 6, 2010 related to lower sales projections, lower cash balances, an increase in the discount for lack of marketability and a longer assumed holding period. For the grant of options on August 26, 2010, our Board determined a fair value of $1.98 per share of our common stock on the grant date; however, again options were granted with an exercise price per share of $2.57. The increase in fair value between May 6, 2010 and August 26, 2010 related to an increase in our sales projections and a decrease in both the discount rate for future cash flows and the discount for lack of marketability due to a shorter assumed holding period.

In November 2009, we offered our eligible stock option holders the opportunity to exchange eligible options for new options with an exercise price per share equal to the fair market value of our common stock on December 23, 2010. In approving the exchange offer, our board of directors noted that the principal purpose of the our equity compensation program is to attract and retain personnel required for the success of our business and that a large number of optionees held options to purchase shares of our common stock with exercise prices well above the then-current fair market value of our common stock, and, as a result, our equity compensation program was not having the intended effect of attracting and motivating personnel. Our board of directors concluded that the exchange offer would encourage the continued service of valued service providers critical to our continued success. Options that were eligible to participate in the offer were those that were granted with an exercise price greater than $2.36 per share and remained outstanding and unexercised on December 22, 2009, the expiration date of the offer. All employees (including officers), directors, and consultants as of the commencement date of the offer, were eligible to participate provided they remained service providers through December 22, 2009. Approximately 1,385,000 options were exchanged. New options granted had similar terms and conditions as the exchanged options, except that the exercise price per share of the new options is equal to the per share fair value of our common stock on December 23, 2009 of $2.57 and the new options were subject to an additional three months of vesting. The exchange resulted in incremental stock based compensation expense of $0.7 million of which $0.4 million was recognized immediately on December 23, 2009 and $0.3 million will be recognized over the remaining vesting periods, which range from three months to four years from December 23, 2009.

Certain of our stock options are granted to officers with vesting acceleration features based upon the achievement of certain performance milestones. The timing of the attainment of these milestones may affect the timing of expense recognition since we recognize compensation expense only for the portion of stock options that are expected to vest.

We recorded stock-based compensation of $0.7 million, $2.0 million, $2.1 million, $1.2 million and $1.3 million during 2007, 2008, 2009, the nine months ended September 30, 2009 and the nine months ended September 30, 2010, respectively. As of September 30, 2010, we had $2.1 million of unrecognized stock-based compensation costs, which are expected to be recognized over an average period of 2.0 years.

Accounting for Income Taxes

We use the asset and liability method of accounting for income taxes. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis. 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. Significant management judgment is required in determining our provision for income taxes, our deferred tax assets and liabilities and any valuation allowance recorded against our deferred tax assets. Our provision for income taxes generally consists of tax expense related to current period earnings. As part of the process of preparing our consolidated financial statements, we continuously monitor the circumstances impacting the expected realization of our deferred tax assets for each

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jurisdiction. We consider all available evidence, including historical operating results in each jurisdiction, expectations and risks associated with estimates of future taxable income and ongoing prudent and feasible tax planning strategies in assessing the need for a valuation allowance. To the extent a deferred tax asset cannot be recognized a valuation allowance is established to reduce our deferred tax assets to the amount that is more likely than not to be realized. We have recorded a full valuation allowance on our deferred tax assets due to uncertainties related to our ability to utilize our deferred tax assets in the foreseeable future. These deferred tax assets primarily consist of net operating loss carryforwards and research and development tax credits. We intend to maintain this valuation allowance until sufficient evidence exists to support its reduction. We make estimates and judgments about our future taxable income that are based on assumptions that are consistent with our plans and estimates. Should the actual amounts differ from our estimates, the amount of our valuation allowance could be materially impacted. Changes in these estimates may result in significant increases or decreases to our tax provision in a period in which such estimates are changed which in turn would affect net income.

Inventory Valuation

We record adjustments to inventory for potentially excess, obsolete, slow-moving or impaired goods in order to state inventory at its net realizable value. The business environment in which we operate is subject to rapid changes in technology and customer demand. We regularly review inventory for excess and obsolete products and components, taking into account product life cycle and development plans, product expiration and quality issues, historical experience and our current inventory levels. If actual market conditions are less favorable than anticipated, additional inventory adjustments could be required.

Warrants to Purchase Convertible Preferred Stock

We account for freestanding warrants to purchase shares of our convertible preferred stock as liabilities because the warrants may conditionally obligate us to transfer assets at some point in the future. The warrants are subject to remeasurement at each balance sheet date, and any change in fair value is recognized as a component of other income (expense), net in the consolidated statements of operations. We estimated the fair value of these warrants at the respective balance sheet dates using the Black-Scholes option-pricing model.

We will continue to record adjustments to the fair value of the warrants until they are exercised, expire or, upon the closing of an initial public offering, become warrants to purchase shares of our common stock, at which time the warrants will no longer be accounted for as a liability. At that time, the then-current aggregate fair value of these warrants will be reclassified from current liabilities to additional paid-in capital, a component of stockholders equity, and we will cease to record any related periodic changes in fair value.

Results of Operations

Revenue

We generate revenue from sales of our products, collaboration agreements and government grants. Our product revenue consists of sales of instruments and related services, and consumables, including chips and reagents. We also have entered into collaboration agreements, research and development contracts and have received government grants to conduct research and development activities.

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The following table presents our revenue by source for each period presented (in thousands).

	Fiscal Year			Nine Months Ended September 30,	
	2007	2008	2009	2009	2010
Revenue:					
Instruments	$ 2,682	$ 10,477	$ 17,318	$ 12,523	$ 14,032
Consumables	1,769	2,887	6,281	3,846	6,851
Product revenue	4,451	13,364	23,599	16,369	20,883
Collaboration revenue	460	70			975
Grant revenue	2,364	1,913	1,813	1,420	1,347
Total revenue	$ 7,275	$ 15,347	$ 25,412	$ 17,789	$ 23,205

The following table presents our product revenue by geography and as a percentage of total product revenue by geography based on the billing address of our customers for each period presented (in thousands).

	Fiscal Year						Nine Months Ended September 30,			
	2007		2008		2009		2009		2010	
United States	$ 2,426	55%	$ 6,912	52%	$ 12,630	54%	$ 8,260	50%	$ 12,028	58%
Europe	735	17%	3,172	24%	4,885	21%	3,365	21%	4,768	23%
Japan	732	16%	1,645	12%	3,172	13%	2,741	17%	1,568	8%
Asia Pacific	558	12%	1,431	11%	2,162	9%	1,369	8%	2,053	10%
Other		%	204	1%	750	3%	634	4%	466	1%
Total	$ 4,451	100%	$ 13,364	100%	$ 23,599	100%	$ 16,369	100%	$ 20,883	100%

Grant revenue is primarily generated in Singapore. Collaboration revenue is primarily generated in the United States. As we expand our business in Europe, Latin America and Asia Pacific, we expect our product revenue from outside of the United States to increase as a percentage of our total product revenue.

Our customers include pharmaceutical and biotechnology companies, academic research institutions, diagnostic laboratories and Ag-Bio companies worldwide. Total revenue from our five largest customers in each of the periods presented comprised 48%, 32%, 20% and 18% of revenue in 2007, 2008, 2009, and the nine months ended September 30, 2010, respectively.

Comparison of the Nine Months Ended September 30, 2009 and September 30, 2010

Total Revenue

Total revenue increased $5.4 million, or 30%, to $23.2 million for the nine months ended September 30, 2010 as compared to $17.8 million for the nine months ended September 30, 2009.

Product Revenue

Product revenue increased by $4.5 million, or 28%, to $20.9 million for the nine months ended September 30, 2010 as compared to $16.4 million for the nine months ended September 30, 2009. The increase is primarily due to the $3.0 million, or 78%, increase in consumables revenue resulting from the higher installed base of instruments. In addition, instrument revenue increased by $1.5 million, or 12%. Instrument sales volume increased by 44% primarily driven by our Access Array system, which launched in the second half of 2009. Average instrument selling prices were generally lower for the nine months ended September 30, 2010 compared to the same period in 2009 due to increased sales of the Access Array instrument which has a lower average selling price compared to our BioMark and EP1 instruments.

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We expect unit sales of both instruments and consumables to continue to increase in future periods as we continue our efforts to grow our customer base and expand our geographic market coverage. However, we expect our average selling prices of our instruments to fluctuate over time based on product mix.

Collaboration Revenue

Collaboration revenue was $1.0 million for the nine months ended September 30, 2010, resulting from a fixed-fee research and development agreement that we entered into in May 2010. The arrangement provided for an up-front fee that is being amortized over the term of the agreement, currently projected to be approximately 15 months. We also recognized revenue from the achievement of milestones during the period. We expect to receive additional milestone fees as and when we achieve additional milestones, as specified in the agreement. In the nine months ended September 30, 2009, we did not have any research and development arrangements in place.

Grant Revenue

Grant revenue consists of incentive grants from government entities, primarily EDB. Grant revenue decreased $0.1 million, or 5%, to $1.3 million for the nine months ended September 30, 2010 compared to $1.4 million for the nine months ended September 30, 2009. The decrease relates to a reduction in activity for the EDB grant agreement as we reach certain milestones. Under our incentive grant agreements with EDB, eligible expenses incurred by us in Singapore were $3.4 million for the nine months ended September 30, 2010 and $2.7 million in the nine months ended September 30, 2009.

Our agreements with EDB provide that grants extended to us are subject to our operation of increasing levels of research, development and manufacturing in Singapore, including the use of local service providers, the hiring and training of personnel in Singapore, the incurrence of research and development expenses in Singapore, our receipt of new investment in our company and our achievement of certain agreed upon milestones relating to the development of our products. Development and manufacturing milestones achieved include completion of feasibility studies and prototype development, establishment of manufacturing lines, process automation and manufacturing yield improvements for our chips and related instruments. These agreements further provided EDB with the right to demand repayment of a portion of past grants in the event that we did not meet our obligations under the applicable agreements. Based on correspondence with EDB, we believe we have satisfied our obligations applicable to our EDB grant revenue through September 30, 2010.

We expect total grant revenue for 2010 and future periods to decrease compared to 2009 as the first of our EDB grant agreements was completed during 2010 and the second EDB grant agreement will be completed in 2011.

Cost of Product Revenue

The following table presents our cost of product revenue and product margin for each period presented (in thousands).

	Nine Months Ended September 30,	
	2009	**2010**
Cost of product revenue	$ 8,404	$ 7,999
Product margin	49%	62%

Cost of product revenue includes manufacturing costs incurred in the production process, including component materials, assembly labor and overhead; installation; warranty; service; and packaging and delivery costs. In addition, cost of product revenue includes royalty costs for licensed technologies included in our products, provisions for slow-moving and obsolete inventory and stock-based compensation expense. Costs related to collaboration and grant revenue are included in research and development expense.

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Cost of product revenue decreased $0.4 million, or 5%, to $8.0 million for the nine months ended September 30, 2010 from $8.4 million for the nine months ended September 30, 2009. Cost of product revenue as a percentage of related revenue was 38% for the nine months ended September 30, 2010 compared to 51% for the nine months ended September 30, 2009. The decrease in cost of product revenue was primarily due to lower material costs as we sourced more components from local vendors in Asia, improved overhead absorption from increased volumes and improved yields on our chips, and decreased provisions for slow moving and excess and obsolete inventory.

We expect the unit costs of our products to decline in future periods as a result of our ongoing efforts to improve our manufacturing processes coupled with expected increases in production volumes and yields.

Operating Expenses

The following table presents our operating expenses for each period presented (in thousands):

	Nine Months Ended September 30,	
	2009	**2010**
Research and development	$ 9,249	$ 10,097
Selling, general and administrative	14,386	17,672
Total operating expenses	$ 23,635	$ 27,769

Research and Development

Research and development expense consists primarily of personnel costs, independent contractor costs, prototype and material expenses and other allocated facilities and information technology expenses. We have made substantial investments in research and development since our inception. Our research and development efforts have focused primarily on the tasks required to enhance our technologies and to support development and commercialization of new and existing products and services.

Research and development expense increased $0.8 million, or 9%, to $10.1 million for the nine months ended September 30, 2010 compared to $9.2 million for the nine months ended September 30, 2009. The increase relates primarily to increased headcount related costs of $0.5 million and increased consumption of supplies and consumables of $0.3 million associated with new product introductions and related development and testing. We believe that our continued investment in research and development is essential to our long-term competitive position and expect these expenses to increase in future periods.

Selling, General and Administrative

Selling, general and administrative expense consists primarily of personnel costs for our sales and marketing, business development, finance, legal, human resources and general management, as well as professional services, such as legal and accounting services.

Selling, general and administrative expense increased $3.3 million, or 23%, to $17.7 million for the nine months ended September 30, 2010, compared to $14.4 million for the nine months ended September 30, 2009. The increase was primarily due to increased compensation costs and related expenses of $2.0 million resulting from increased headcount to support our business and revenue growth, increased advertising and promotional costs of $0.3 million to support our new product introductions and to increase market awareness, increased legal and professional fees of $0.5 million, and an increase in our provision for bad debt expense of $0.3 million. We expect selling, general and administrative expense to increase in future periods as we continue to grow our sales,

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technical support, marketing and administrative headcount, support increased product sales, broaden our customer base and incur additional costs to support our expanded global footprint and the overall growth in our business. We also expect legal, accounting and compliance costs to increase upon becoming a public company.

Interest Expense, Interest Income and Other Income and Expense, Net

We receive interest income from our cash and cash equivalents. Conversely, we incur interest expense from our long-term debt and convertible promissory notes and the amortization of debt discounts related to these items. The following table presents these items for each period presented (in thousands).

	Nine Months Ended September 30,	
	2009	2010
Interest expense	$ (1,849)	$ (1,620)
Interest income	33	7
Gains from changes in the fair value of convertible preferred stock warrants, net	180	210
Other income (expense), net	189	284

Interest expense decreased $0.2 million, or 12%, to $1.6 million for the nine months ended September 30, 2010 compared to $1.8 million for the nine months ended September 30, 2009 due to the interest incurred on $10.7 million of convertible notes issued in August 2009 which was converted into convertible preferred stock in November 2009. We expect interest expense to decrease in 2011 as we expect to begin repayment of our outstanding debt.

Gains from changes in the fair value of preferred stock warrants increased $30,000, or 17%, to $210,000 for the nine months ended September 30, 2010 from $180,000 in the nine months ended September 30, 2009 due to a decrease in the warrant liability fair value.

Interest income decreased by $26,000, or 79%, for the nine months ended September 30, 2010 compared to the nine months ended September 30, 2009 due to the decrease in our cash balances during 2010. We expect interest income to increase in 2011 as we invest a portion of the net proceeds from this offering.

Other income (expense) for the nine months ended September 30, 2010 was relatively consistent with the nine months ended September 30, 2009 and primarily consists of foreign currency exchange gains and losses.

Comparison of Years Ended December 27, 2008 and December 31, 2009

The following table presents our revenue by source for each period presented (in thousands).

	Fiscal Year	
	2008	2009
Revenue:		
Instruments	$ 10,477	$ 17,318
Consumables	2,887	6,281
Product revenue	13,364	23,599
Collaboration revenue	70	
Grant revenue	1,913	1,813
Total revenue	$ 15,347	$ 25,412

Total Revenue

Total revenue increased $10.1 million, or 66%, to $25.4 million for 2009 as compared to $15.4 million for 2008.

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Product Revenue

Product revenue increased by $10.2 million, or 77%, to $23.6 million for 2009 as compared to $13.4 million for 2008. Instrument revenue increased by $6.8 million, or 65% primarily due to a $7.9 million increase in BioMark and EP1 instrument revenue, despite lower average selling prices, partially offset by a $1.1 million decrease in Topaz instrument revenue. Instrument sales volume increased by 173% due primarily to sales of our BioMark instruments and, in part, to sales of our EP1 instruments, which began in the third quarter of 2008. In addition, consumables revenue increased by $3.4 million, or 118%, resulting from the higher installed base of instruments. Our deferred product revenue balance decreased from $1.7 million at December 27, 2008 to $1.0 million at December 31, 2009. The decrease was primarily due to the recognition of revenue on previously deferred sales beginning in the third quarter of 2008.

Grant Revenue

Grant revenue decreased $0.1 million, or 5%, to $1.8 million for 2009 compared to $1.9 million for 2008. The decrease related to a $0.3 million reduction in activity for a grant agreement with the National Institutes of Health, or NIH, which terminated in June 2008 and a decrease of $0.2 million in EDB grants, partially offset by a new grant for $0.3 million entered into in April 2009 with the California Institute for Regenerative Medicine, or CIRM. EDB grant revenue was $1.5 million during 2009, compared to $1.7 million during 2008. Under our incentive grant agreements with EDB, eligible expenses incurred by us in Singapore were $3.7 million in 2009 and $3.7 million in 2008.

Cost of Product Revenue

The following table presents our cost of product revenue and product margin for each period presented (in thousands).

	Fiscal Year	
	2008	**2009**
Cost of product revenue	$ 8,364	$ 11,486
Product margin	37%	51%

Cost of product revenue increased $3.1 million, or 37%, to $11.5 million for 2009 compared to $8.4 million for 2008 primarily due to increases in instrument sales related to our BioMark, EP1 and, to a lesser extent, our Access Array systems. Cost of product revenue as a percentage of product revenue was 49% in 2009 as compared to 63% in 2008. The decrease was primarily due to lower material costs especially for tooling, improved overhead absorption from increased volumes and improved yields on our chips, product efficiencies resulting from transitioning our instrument manufacturing operations from South San Francisco to Singapore, and reduced material costs as we sourced more components from local vendors in Asia, partially offset by increased provisions for slow moving and excess and obsolete inventory.

Operating Expenses

The following table presents our operating expenses for each period presented (in thousands):

	Fiscal Year	
	2008	**2009**
Operating expenses:		
Research and development	$ 14,015	$ 12,315
Selling, general and administrative	22,511	19,648
Total operating expenses	$ 36,526	$ 31,963

Research and Development

Research and development expense decreased $1.7 million, or 12%, to $12.3 million for 2009 compared to $14.0 million for 2008. The decrease primarily related to decrease in compensation costs of $0.3 million due to a

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decrease in research and development headcount as we transitioned certain of our engineering efforts to our facility in Singapore, a decrease in facility and information technology allocations of $0.4 million as our research and development organization occupied less space in our South San Francisco facility following the transition of certain activities to Singapore and a decrease in consumption of supplies and consumables of $0.7 million.

Selling, General and Administrative

Selling, general and administrative expense decreased $2.9 million, or 13%, to $19.6 million for 2009 compared to $22.5 million for 2008. The decrease was primarily due to initial public offering related costs of $3.4 million recognized in 2008 following the withdrawal of our previous offering in September 2008, a decrease in audit and tax related fees of $0.7 million, a decrease in consulting costs of $0.5 million and a decrease in advertising and promotion costs of $0.4 million. The initial public offering related costs consisted primarily of legal and accounting services and had previously been capitalized. The overall decrease was partially offset by a $1.9 million increase in compensation related costs associated with our increased headcount and an increase in stock-based compensation expense of $0.1 million.

Interest Expense, Interest Income and Other Income and Expense, Net

The following table presents our interest income, interest expense, and other income and expense, net for each period presented (in thousands):

	Fiscal Year	
	2008	2009
Interest expense	$ (2,031)	$ (2,876)
Interest income	766	37
Gain (loss) from changes in the fair value of convertible preferred stock warrants, net	769	(135)
Other income (expense), net	393	1,833

Interest expense increased $0.8 million, or 42%, to $2.9 million for 2009 compared to $2.1 million for 2008 due to the interest expense related to the issuance of $10.7 million in convertible notes in August 2009.

Interest income decreased by $0.7 million, or 95%, to $37,000 for 2009 compared to $0.8 million for 2008. The decrease in interest income reflects the decrease in our cash and cash equivalents balances during 2009.

Gain (loss) from changes in the fair value of convertible preferred stock warrants decreased by $0.9 million, or 118%, to a $0.1 million loss for 2009 compared to a $0.8 million gain in 2008 due to changes in the fair value of our warrant liability.

Other income (expense) in 2009 increased $1.4 million, or 366%, to $1.8 million in 2009 from $0.4 million in 2008 primarily due to income recognized from our grant of a sub-license to certain intellectual property in 2009.

Comparison of Years Ended December 29, 2007 and December 27, 2008

The following table presents our revenue by source for each period presented (in thousands).

	Fiscal Year	
	2007	2008
Revenue:		
Instruments	$ 2,682	$ 10,477
Consumables	1,769	2,887
Product revenue	4,451	13,364
Collaboration revenue	460	70
Grant revenue	2,364	1,913
Total revenue	$ 7,275	$ 15,347

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Total Revenue

Total revenue increased $8.1 million, or 111%, to $15.3 million for 2008 as compared to $7.3 million for 2007.

Product Revenue

Product revenue increased by $9.0 million, or 202%, to $13.4 million for 2008 compared to $4.5 million for 2007. Revenue from instruments increased by $7.9 million, or 293%, primarily due to higher demand for our BioMark instruments, resulting in an increase in BioMark instrument sales volume of 164%. Revenue from consumables increased by $1.1 million, or 64%, primarily due to our higher installed base of instruments. Our deferred product revenue balance decreased from $2.7 million at December 29, 2007 to $1.7 million at December 27, 2008. The decrease was primarily due to the recognition of revenue on previously deferred sales beginning in the third quarter of 2008.

Collaboration Revenue

Collaboration revenue decreased $0.4 million, or 85%, to $70,000 for 2008 from $0.5 million for 2007, primarily due to the completion of one of our development agreements during 2007.

Grant Revenue

Grant revenue decreased $0.5 million, or 19%, to $1.9 million for 2008 compared to $2.4 million for 2007. The decrease related to a $0.3 million reduction in activity under an NIH grant agreement that terminated in June 2008 and a $0.2 million decrease in grant revenue from EDB. Under our incentive grant agreements with EDB, eligible expenses incurred by us in Singapore were $4.4 million in 2007 and $3.7 million in 2008.

Cost of Product Revenue

The following table presents our cost of product revenue and product margin for each period presented (in thousands):

	Fiscal Year	
	2007	2008
Cost of product revenue	$ 3,514	$ 8,364
Product margin	21%	37%

Cost of product revenue increased $4.9 million, or 138%, to $8.4 million for 2008 compared to $3.5 million for 2007, primarily driven by higher instrument sales, start-up costs for our new Singapore manufacturing facility and underutilized capacity as we transitioned manufacturing from the United States to Singapore. Cost of product revenue as a percentage of product revenue was 79% in 2007 compared to 63% in 2008. The decrease was due to the adverse effect of underutilized production capacity in 2007 as we transitioned manufacturing from the United States to Singapore.

Operating Expenses

The following table presents our operating expenses for each period presented (in thousands):

	Fiscal Year	
	2007	2008
Operating expenses:		
Research and development	$ 14,389	$ 14,015
Selling, general and administrative	12,898	22,511
Total operating expenses	$ 27,287	$ 36,526

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Research and Development

Research and development expense decreased $0.4 million, or 3%, to $14.0 million in 2008 from $14.4 million for 2007, primarily due to a decrease in contractor costs of $0.4 million, a decrease in headcount related costs of $0.3 million and a decrease in license costs of $0.1 million, partially offset by higher stock-based compensation of $0.3 million for new hire stock option grants.

Selling, General and Administrative

Selling, general and administrative expense increased by $9.6 million, or 75%, to $22.5 million for 2008 from $12.9 million for 2007 primarily due to costs related to our previously proposed initial public offering that was withdrawn of $3.4 million, increased compensation costs of $4.0 million related to increased headcount, an increase in stock-based compensation of $0.9 million, an increase of $0.9 million in spending primarily for accounting and legal services to support our global expansion and an increase of $0.4 million for advertising and promotions.

Interest Expense, Interest Income and Other Income and Expense, net

The following table presents interest expense, interest income and other income and expense, net for each period presented (in thousands).

	Fiscal Year	
	2007	**2008**
Interest expense	$ (2,790)	$ (2,031)
Interest income	1,140	766
Gain (loss) from changes in the fair value of convertible preferred stock warrants, net	(245)	769
Other income (expense), net	75	393

Interest expense decreased by $0.8 million, or 27%, to $2.0 million for 2008 compared to $2.8 million for 2007. The decrease was primarily due to a lower average debt balance following the conversion of $10.0 million of promissory notes in March 2007 and the impact of a convertible promissory note of $5.0 million issued in April 2007. Interest expense for 2008 included interest accrued on $10.0 million in borrowings on our credit line during June 2008.

Interest income for 2008 decreased by $0.4 million, or 33%, to $0.8 million for 2008 compared to $1.1 million for 2007. The decrease in interest income was due to lower cash and cash equivalents and lower interest rates during 2008 as compared to 2007.

Liquidity and Capital Resources

Sources of Liquidity

As of September 30, 2010, we had $5.1 million of cash and cash equivalents compared to $14.6 million as of December 31, 2009. As of September 30, 2010, our working capital totaled $6.8 million. Since our inception, we have principally funded our operations through issuances of convertible preferred stock, which have provided us with aggregate net proceeds of $184.8 million, of which $20.0 million was provided by entities affiliated with EDB in the form of convertible promissory notes that converted into convertible preferred stock and $10.7 million in other loans that were converted into preferred stock. We have also received significant funding in the form of non-convertible loans that have provided us with aggregate net proceeds of $26.6 million. As of September 30, 2010, we had an accumulated deficit of $196.2 million.

We have received funding in the form of grants from government entities, the most significant of which have been associated with two grant agreements with EDB that have helped support the establishment and operation of our Singapore manufacturing, research and development facilities.

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Our first grant agreement with EDB was completed in July 2010. The maximum amount of grant revenue available to us under our second grant agreement with EDB from September 30, 2010 through May 31, 2011 is SG$1.1 million (approximately US$0.8 million) although we expect actual grant revenue to be significantly lower.

To maintain eligibility for grant payments under our second grant agreement, we are required to incur annual spending in Singapore of at least SG$6.5 million (approximately US$4.7 million) for the 12 months ended May 31, 2009 and for the twelve months ended May 31, 2010 and at least SG$9.0 million (approximately US$6.5 million) for the 12 months ending May 31, 2011. We met our annual spending requirements in Singapore for the 12 months ended May 31, 2009 and May 31, 2010.

For this purpose, spending in Singapore includes overhead, salaries, outsourcing and subcontracting expenses, operating expenses and royalties paid, with limited exceptions such as raw materials purchases. Expenditures that are used to satisfy the requirements of one grant agreement are not eligible for satisfaction of the other grant agreement. To qualify for payment under the second grant agreement, expenditures must relate to the development of instrumentation for our systems and not our chips.

Our first grant agreement required that we employ at least 23 research scientists and engineers in Singapore by December 31, 2009. Our second grant agreement required that we employ at least 10 new research scientists and engineers in Singapore by May 31, 2009 and that we employ at least 12 new research scientists and engineers in Singapore by May 31, 2011, which may only be satisfied by personnel employed in the research and development of our instruments. In addition, we are required to employ at least 12 research scientists and engineers until May 31, 2013, which may be satisfied by personnel employed in the research and development of either chips or instruments.

As of September 30, 2010, we employed 23 research scientists and engineers involved in the research and development of our chips and 12 research scientists and engineers involved in the research and development of related instrumentation in Singapore.

We cannot assure you that we will take all actions required to remain eligible for grants under our agreements with EDB and, in the event that we do not comply with such requirements, whether intentionally or unintentionally, we may not receive further grants under such agreements. In the event that we do not receive grant funding from EDB in the future, we do not believe that our liquidity would be materially affected.

We have entered into multiple convertible note purchase agreements with Biomedical Sciences Investment Fund Pte. Ltd., or BMSIF, pursuant to which we issued convertible notes and received proceeds in the amount of $21.6 million through September 30, 2010. BMSIF is wholly-owned by EDB Investments Pte. Ltd., whose parent entity is EDB. Ultimately, each of these entities is controlled by the government of Singapore. As of September 30, 2010, there were no outstanding principal and accrued interest balances for our convertible note purchase agreements with BMSIF as the final remaining note was converted into shares of our Series E convertible preferred stock in November 2009.

In March 2005, we entered into a loan and security agreement with a lender under which we borrowed $13.0 million to be used for general corporate purposes. The loan interest rate was 11.5% per annum and the maturity date was February 2010. The loan was subject to prepayment penalties if paid off prior to 2010. In February 2008, this loan and security agreement was amended to provide us with an additional credit line in the amount of $10.0 million that we could draw upon until July 1, 2008 for general corporate purposes. In June 2008, we drew down the $10.0 million. Interest only payments were made monthly through the remainder of 2008 with monthly payments of principal and interest in the amount of $0.4 million, beginning in January 2009, to be made through June 2011. The agreement also required a final payment in the amount of $0.7 million in June 2011, which has been accreted as interest expense over the term of the loan.

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In March 2009, we combined and restructured the loan and security agreement discussed above. The restructured loan and security agreement had a final repayment date of March 1, 2012. The interest rate under the loan was 13.5% per annum. Interest only payments were made monthly through February 1, 2010. Commencing on March 1, 2010, we began making monthly payments of $0.6 million for principal and interest with an additional final payment of $2.1 million due in March 2012. The agreement also required payment of fees on March 1, 2012 in the amount of $0.2 million, which, along with the $2.1 million final payment, were being accreted as interest expense over the term of the loan. We were subject to a prepayment fee in the amount of 1.5% of the outstanding principal amount being prepaid. In connection with the execution of this loan and security agreement, we issued a warrant to purchase 71,428 shares of Series E convertible preferred stock at $14.00 per share. The fair value of the warrant resulted in a debt discount that is being amortized to interest expense over the life of the agreement.

In June 2010, we amended the loan and security agreement discussed above. The restructured loan and security agreement has a maturity date of February 2013. The loan bears interest at 13.5% per annum with interest only payments due monthly through February 2011. Commencing in March 2011, we will begin making monthly payments of $0.6 million for principal and interest with an additional payment of $2.1 million due in March 2012. The agreement also requires payment of fees in March 2012 in the amount of $0.2 million. The combined additional payment and fees of $2.3 million are being accreted as interest expense through the maturity date of February 2013. We are subject to a prepayment fee in the amount of 1.0% of the outstanding principal amount being prepaid. In connection with the execution of this loan and security agreement, we issued to the lender a warrant to purchase 99,966 shares of Series E-1 convertible preferred stock at $7.00 per share. The fair value of the warrant resulted in a debt discount that is being amortized to interest expense over the life of the agreement. In addition, we amended warrants previously issued to this lender by reducing the exercise price of all of their warrants to $7.00 per share and extending the term of one warrant. As a result of the warrant amendments, these warrants were revalued resulting in an increase in the value of $0.1 million which resulted in an additional debt discount that will be amortized to interest expense over the life of the agreement.

As of September 30, 2010, the outstanding principal and accrued interest balance for this loan and security agreement was $14.6 million, net of unamortized debt discounts of $0.2 million.

The loan and security agreement contains customary covenants that, among other things, require us to deliver both annual audited and periodic unaudited financial statements by specified dates and maintain collateral on company premises and restrict our ability, without the consent of the lender, to incur additional debt, pay dividends or make certain other distributions, or payments in respect of our capital stock, engage in transactions with affiliates or engage in the sale, lease or license of our assets outside of the ordinary course of business. As of September 30, 2010, we were in compliance with the above covenants with the exception of the timely delivery of audited financial statements for 2009 for which we have received a waiver through December 31, 2010.

In August 2009, we entered into a convertible Note and Warrant Purchase Agreement, or Note, with existing investors to provide us with cash proceeds of $10.7 million. In connection with the Note, we issued warrants to purchase 380,906 shares of Series E convertible preferred stock at $14.00 per share. The fair value of the warrants resulted in a debt discount of $0.3 million. The Note was scheduled to mature on December 31, 2009, with interest accruing on the outstanding principal amount for the first 60 days at a rate equal to 1% per month and at a rate equal to 2% per month after the first 60 days, compounded monthly. In November 2009, the noteholders converted the outstanding principal amount and accrued interest totaling $11.0 million into 788,059 shares of Series E convertible preferred stock which were issued upon the conversion at a price of $14.00 per share.

In July 2010, we offered holders of preferred stock warrants with an exercise price over $7.00 per share the opportunity to amend those warrants to lower the exercise price to $7.00 per share. The amended warrants would be exercisable for Series E-1 convertible preferred stock and would receive one common share for each preferred share purchased, subject to the warrant holder s agreement to immediately exercise the warrants in full and for

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cash. The offer expired in August 2010 with warrants to purchase 99,864 shares of preferred stock exercised. As a result of this offer, we received gross proceeds of $0.7 million and issued 99,864 shares of both Series E-1 convertible preferred stock and common stock. The rights, preferences, and other terms of the Series E-1 convertible preferred stock were identical to those of our Series E convertible preferred stock, except the liquidation preference of the Series E-1 convertible preferred stock was $7.00 per share.

The following table presents our cash flow summary for each period presented (in thousands):

	Fiscal Year			Nine Months Ended September 30,	
	2007	2008	2009	2009	2010
Cash flow summary					
Net cash used in operating activities	$ (21,759)	$ (28,720)	$ (19,513)	$ (14,388)	$ (9,247)
Net cash (used in) provided by investing activities	(6,740)	6,001	(688)	(610)	(999)
Net cash provided by financing activities	37,555	6,325	16,939	9,529	664
Net increase (decrease) in cash and cash equivalents	$ 9,059	$ (16,281)	$ (3,194)	$ (5,421)	$ (9,519)

Net Cash Used in Operating Activities

We derive cash flows from operations primarily from cash collected from the sale of our products, collaboration and license agreements and grants from certain government entities. Our cash flows from operating activities are also significantly influenced by our use of cash for operating expenses to support the growth of our business. We have historically experienced negative cash flows from operating activities as we have expanded our business and built our infrastructure domestically and internationally and this may continue in the future.

Net cash used in operating activities was $9.2 million during the nine months ended September 30, 2010. Net cash used in operating activities primarily consisted of our net loss of $13.8 million, changes in our operating assets and liabilities in the amount of $2.4 million, and non-cash income adjustment to the fair value of convertible preferred stock warrants of $0.2 million, which was partially offset by non-cash expense items such as stock-based compensation of $1.3 million, depreciation and amortization of our property and equipment of $0.9 million and amortization of debt discounts and issuance cost of $0.3 million.

Net cash used in operating activities was $14.4 million during the nine months ended September 30, 2009. Net cash used in operating activities primarily consisted of our net loss of $15.7 million, changes in our operating assets and liabilities in the amount of $1.2 million, and non-cash income adjustment to the fair value of convertible preferred stock warrants of $0.2 million, which was partially offset by non-cash expense items such as stock-based compensation of $1.2 million, depreciation and amortization of our property and equipment of $1.3 million and amortization of debt discounts and issuance cost of $0.2 million.

Net cash used in operating activities was $19.5 million during 2009. Net cash used in operating activities primarily consisted of our net loss of $19.1 million, changes in our operating assets and liabilities in the amount of $2.7 million, non-cash income from the licensing of technology of $1.8 million, and non-cash income adjustment to the fair value of convertible preferred stock warrants of $0.1 million, which was partially offset by non-cash expense items such as stock-based compensation of $2.1 million, depreciation and amortization of our property and equipment of $1.6 million and amortization of debt discounts and issuance cost of $0.3 million.

Net cash used in operating activities was $28.7 million during 2008. Net cash used in operating activities primarily consisted of a net loss of $29.5 million, non-cash expense adjustment to the fair value of convertible preferred stock warrants of $0.8 million, which was partially offset by changes in our operating assets and liabilities in the amount of $2.5 million and non-cash expense items such as stock-based compensation of $2.0 million, depreciation and amortization of our property and equipment of $1.5 million and amortization of debt discounts of $0.5 million.

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Net cash used in operating activities was $21.8 million during 2007. Net cash used in operating activities primarily consisted of a net loss of $25.5 million, which was partially offset by non-cash expense items such as depreciation and amortization of our property and equipment of $1.6 million, stock-based compensation of $0.7 million, amortization of debt discounts of $0.5 million, and changes in our operating assets and liabilities in the amount of $0.4 million.

Net Cash (Used in) Provided by Investing Activities

Historically, our primary investing activities have consisted of capital expenditures for laboratory, manufacturing and computer equipment and software to support our expanding infrastructure and work force; restricted cash related to leased space and lending agreements; and purchases, sales and maturities of our available-for-sale securities. We expect to continue to expand our manufacturing capability, primarily in Singapore, and expect to incur additional costs for capital expenditures related to these efforts in future periods.

We used $1.0 million of cash in investing activities during the nine months ended September 30, 2010 for purchases of capital equipment to support our infrastructure and manufacturing operations of $1.1 million partially offset by the release of $0.1 million from restricted cash for a sub-lease that expired.

We used $0.6 million of cash in investing activities during the nine months ended September 30, 2009 for net purchases of capital equipment to support our infrastructure and manufacturing operations.

We used $0.7 million of cash in investing activities during 2009 for purchases of capital equipment to support our infrastructure and manufacturing operations of $0.8 million partially offset by proceeds of $0.1 million from disposals of property and equipment.

We generated $6.0 million of cash from investing activities during 2008 primarily from maturities of available for sale securities of $7.8 million, sales of available-for-sale securities of $3.0 million, restricted cash of $0.6 million, which was partially offset by purchases of available-for-sale securities of $4.5 million and capital expenditures of $0.9 million primarily to support our Singapore manufacturing facility.

We used $6.7 million of cash in investing activities during 2007, primarily for purchases of available-for-sale securities of $6.3 million and capital expenditures of $1.0 million primarily related to purchases of equipment for our Singapore manufacturing facility, partially offset by maturities of available-for-sale securities of $0.5 million.

Net Cash Provided by Financing Activities

Historically, we have principally funded our operations through issuances of convertible preferred stock and long term debt.

We generated $0.7 million of cash from financing activities during the nine months ended September 30, 2010 primarily from exercises of preferred warrants.

We generated $9.5 million of cash from financing activities during the nine months ended September 30, 2009 primarily from proceeds from our issuance of convertible promissory notes of $10.5 million partially offset by our repayment of debt of $1.0 million.

We generated $16.9 million of cash from financing activities during 2009 primarily from proceeds from the issuance of convertible promissory notes, net of issuance costs, of $10.5 million and proceeds from the issuance of convertible preferred stock, net of issuance costs, of $7.4 million, partially offset by the repayment of long-term debt of $1.0 million.

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During 2008, we generated $6.3 million of cash from financing activities primarily due to proceeds from our amended loan and security agreement of $10.0 million, partially offset by repayments of our long-term debt of $3.9 million.

During 2007, we generated $37.6 million of cash from financing activities primarily due to net proceeds from issuance of preferred stock of $35.9 million and net proceeds from the issuance of convertible promissory notes of $5.0 million, partially offset by repayments on long-term debt of $3.5 million.

Capital Resources

We believe our existing cash and cash equivalents and the net proceeds from this offering, will be sufficient to meet our working capital and capital expenditure needs for at least the next 18 months. However, we may need to raise additional capital to expand the commercialization of our products, fund our operations and further our research and development activities. Our future funding requirements will depend on many factors, including market acceptance of our products, the cost of our research and development activities, the cost of filing and prosecuting patent applications, the cost of defending, in litigation or otherwise, any claims that we infringe third-party patents or violate other intellectual property rights, the cost and timing of regulatory clearances or approvals, if any, the cost and timing of establishing additional sales, marketing and distribution capabilities, the cost and timing of establishing additional technical support capabilities, the effect of competing technological and market developments and the extent to which we acquire or invest in businesses, products and technologies, although we currently have no commitments or agreements relating to any of these types of transactions. We currently expect to use the proceeds from this offering for sales and marketing initiatives, including significantly expanding our sales force, to support the ongoing commercialization of our products; for research and product development activities; for expansion of our facilities and manufacturing operations; and for working capital and other general corporate purposes. We may also use a portion of our net proceeds to acquire and invest in complementary products, technologies or businesses; however, we currently have no agreements or commitments to complete any such transaction.

Based on our cash and cash equivalents balances as of December 31, 2009, our projected spending in 2010 and without taking into account our receipt of the proceeds of this offering, our independent registered public accounting firm has included in their audit opinion for the year ended December 31, 2009 a statement with respect to our ability to continue as a going concern. However, our financial statements have been prepared assuming we will continue to operate as a going concern, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business.

We may require additional funds in the future and we may not be able to obtain such funds on acceptable terms, or at all. If we raise additional funds by issuing equity securities, our stockholders may experience dilution. Debt financing, if available, may involve covenants restricting our operations or our ability to incur additional debt. Any debt or additional equity financing that we raise may contain terms that are not favorable to us or our stockholders. If we raise additional funds through collaboration and licensing arrangements with third parties, it may be necessary to relinquish some rights to our technologies or our products, or grant licenses on terms that are not favorable to us. If we are unable to raise adequate funds, we may have to liquidate some or all of our assets, or delay, reduce the scope of or eliminate some or all of our development programs. If we do not have, or are not able to obtain, sufficient funds, we may have to delay development or commercialization of our products or license to third parties the rights to commercialize products or technologies that we would otherwise seek to commercialize. We also may have to reduce marketing, customer support or other resources devoted to our products or cease operations.

Off-Balance Sheet Arrangements

Since our inception, we have not had any off-balance sheet arrangements as defined in Item 303(a)(4) of the Securities and Exchange Commission s Regulation S-K.

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Contractual Obligations and Commitments

The following summarizes our contractual obligations as of September 30, 2010 (in thousands):

	Payments Due by Period				
	Total	Less Than 1 Year	1-3 Years	3-5 Years	Thereafter
Operating lease obligations	$ 4,118	$ 1,039	$ 2,587	$ 491	$
Long-term debt	17,692	5,020	12,672		
Purchase obligations	2,809	2,809			
Total	$ 24,619	$ 8,868	$ 15,259	$ 491	$

Our operating lease obligations relate to leases for our current headquarters and leases for office space for our foreign subsidiaries. Purchase obligations consist of contractual and legally binding commitments to purchase goods.

We have entered into several license and patent agreements. Under these agreements, we pay annual license maintenance fees, nonrefundable license issuance fees, and royalties as a percentage of net sales for the sale or sublicense of products using the licensed technology. If we elect to maintain these license agreements, we will pay aggregate annual fees of $0.3 million per year until 2027. Future payments related to these license agreements have not been included in the contractual obligations table above as the period of time over which the future license payments will be required to be made, and the amount of such payments are indeterminable.

On March 7, 2003 we entered into a Master Closing Agreement with Oculus Pharmaceuticals, Inc. and the UAB Research Foundation, or UAB, related to certain intellectual property and technology rights licensed by us from UAB. Pursuant to the agreement, we are obligated to issue UAB shares of our common stock with a value equal to $1.5 million upon the achievement of a certain milestone and based upon the fair market value of our common stock at the time the milestone is achieved. We currently do not anticipate achieving this milestone in the foreseeable future and do not anticipate issuing these shares.

Our manufacturing operations in Singapore, which commenced in October 2005, have generated incentive grant payments from EDB for our research, development and manufacturing activity in Singapore. To remain eligible for future incentive grant payments, we are required to maintain a significant and increasing manufacturing and research and development presence in Singapore. Under our current grant agreements with EDB, we expect our spending related to these grant agreements to increase in order to maintain our manufacturing facility in Singapore. Future expenditures related to these grant agreements have not been included in the contractual obligations table above as the amounts of future expenditures, if any, and the timing of when they will be incurred are still indeterminable.

In September 2010, we entered into a new lease for our headquarters in South San Francisco, California. The new lease expires in April 2015 and includes a renewal option for an additional three years. We received a $0.4 million lease incentive which will be recognized as a reduction of rent expense on a straight-line basis over the term of the new lease.

Recent Accounting Pronouncements

Information with respect to recent accounting pronouncements is included in Note 1 of the notes to our consolidated financial statements included elsewhere in this prospectus.

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Quantitative and Qualitative Disclosures about Market Risk

Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. Our market risk exposure is primarily a result of fluctuations in foreign currency exchange rates and interest rates. We do not hold or issue financial instruments for trading purposes.

Foreign Currency Exchange Risk

As we expand internationally our results of operations and cash flows will become increasingly subject to fluctuations due to changes in foreign currency exchange rates. Our revenue is generally denominated in the local currency of the contracting party. Historically, the substantial majority of our revenue has been denominated in U.S. dollars. Our expenses are generally denominated in the currencies in which our operations are located, which is primarily in the United States, with a portion of expenses incurred in Singapore where our other manufacturing facility is located. Our results of operations and cash flows are, therefore, subject to fluctuations due to changes in foreign currency exchange rates. Fluctuations in currency exchange rates could harm our business in the future. The effect of a 10% adverse change in exchange rates on foreign denominated cash, receivables and payables as of December 31, 2009 and September 30, 2010 would not have been material. To date, we have not entered into any material foreign currency hedging contracts although we may do so in the future.

Interest Rate Sensitivity

We had cash and cash equivalents of $5.1 million as September 30, 2010. These amounts were held primarily in cash on deposit with banks, money market funds, commercial paper, corporate notes or notes from government-sponsored agencies, which are short-term. Cash and cash equivalents are held for working capital purposes and restricted cash amounts are held as letters of credit for collateral for a security agreement with a lender and for our facility lease agreements. Due to the short-term nature of these investments, we believe that we do not have any material exposure to changes in the fair value of our investment portfolio as a result of changes in interest rates. Declines in interest rates, however, will reduce future investment income. If overall interest rates had decreased by 10% during the periods presented, our interest income would not have been materially affected.

As of September 30, 2010, the principal amount of our long-term debt outstanding was $14.6 million and the principal and accrued interest amount of our convertible promissory notes outstanding was $0.2 million. The interest rates on our long-term debt and convertible promissory notes are fixed. If overall interest rates had increased by 10% during the periods presented, our interest expense would not have been materially affected.

Fair Value of Financial Instruments

We do not have material exposure to market risk with respect to investments as our investments consist primarily of highly liquid securities that approximate their fair values due to their short period of time to maturity. We do not use derivative financial instruments for speculative or trading purposes, however, we may adopt specific hedging strategies in the future.

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BUSINESS

Overview

We develop, manufacture and market microfluidic systems for growth markets in the life science and agricultural biotechnology, or Ag-Bio, industries. Our proprietary microfluidic systems consist of instruments and consumables, including chips and reagents. These systems are designed to significantly simplify experimental workflow, increase throughput and reduce costs, while providing the excellent data quality demanded by customers. In addition, our proprietary technology enables genetic analysis that in many instances was previously impractical. We actively market three microfluidic systems including eight different commercial chips to leading pharmaceutical and biotechnology companies, academic institutions, diagnostic laboratories and Ag-Bio companies. We have sold systems to over 200 customers in over 20 countries worldwide.

To achieve and exploit advances in life science research, Ag-Bio and molecular diagnostics, laboratories need robust systems that deliver increased throughput and simpler workflows at decreased costs. Our microfluidic systems are designed to overcome many of the limitations of conventional laboratory systems by integrating an increasing number of fluidic components on a single microfabricated chip. Our technology enables our customers to perform and measure thousands of sophisticated biochemical reactions on samples smaller than the content of a single cell, while utilizing minute volumes of reagents and samples. Similarly, for next generation DNA sequencing, our systems enable rapid preparation of multiple samples in parallel at low cost.

Schematic of our 96.96 Dynamic Array chip including an enlarged section showing four of the chip s 9,216 test chambers.

We have successfully commercialized our BioMark and EP1 systems for genetic analysis and our Access Array system for next generation DNA sequencing sample preparation. We have grown our revenues from $6.4 million in 2006, to $25.4 million in 2009 and $23.2 million in the nine months ended September 30, 2010, during which time our product margin has increased from 30% in 2006, to 51% in 2009 and to 62% for the nine months ended September 30, 2010. Researchers and clinicians have successfully employed our products to help achieve breakthroughs in a variety of fields, including genetic variation, cellular function and structural biology. These include using our microfluidic systems to help detect life-threatening mutations in patients cancer cells, discover cancer associated biomarkers, analyze the genetic composition of individual stem cells, identify fetal chromosomal abnormalities and assess the quality of agricultural seed products. We believe, our Access Array system resolves a critical workflow bottleneck that exists in all commercial next generation DNA sequencing platforms. We expect that the versatility of our microfluidic technology will enable us to develop additional applications across a wide variety of markets.

Our Target Markets

The current markets for our products include life science research and Ag-Bio. Total expenditures in life science research and Ag-Bio in the markets described below are projected to exceed $4.3 billion by 2015. In addition, we are developing products for use in molecular diagnostics and other markets.

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Life Science Research

Our primary area of focus within life science research is genetic analysis, the study of genes and their functions. The sum total of the hereditary material of an organism is known as its genome, which is commonly organized into functional units known as genes. Analysis of variations in genomes, genes and gene activity in and between organisms can provide tremendous insight into their health and functioning. There are several forms of genetic analysis in use today including gene expression analysis, genotyping, digital PCR and DNA sequencing.

Gene expression and genotyping are studied through a combination of various technology platforms that characterize gene function and genetic variation. These platforms rely on polymerase chain reaction, or PCR, amplification to generate exponential copies of a DNA sample to provide sufficient signal to facilitate detection. Real-time quantitative PCR, or real-time qPCR, is a more advanced form of PCR that makes it possible to identify the number of copies of DNA present in a sample. Real-time qPCR often utilizes TaqMan, which is a proprietary chemistry developed by Roche Molecular Systems Inc.

The scale of genetic research varies widely. At the low end, researchers sometimes examine a limited number of genetic variations in a relatively small population. At the upper end, researchers may perform genome wide association studies where hundreds of thousands of possible genetic variations are examined across thousands or tens of thousands of samples. Because of the inherent complexity of biological systems, it is rare for researchers to be able to discover scientifically relevant information by examining just a few genetic variations. On the other hand, the result of many genome wide association studies is simply the identification of a more limited set of genetic variations that need to be examined in a larger population. As a result, some of the most productive life science research is done at a mid-multiplex scale, where tens or hundreds of genetic variations are examined in hundreds or thousands of samples.

We target the following specific areas of life science research, and our products are used for mid-multiplex research or applications of a similar scale:

Gene Expression Analysis. This form of genetic analysis focuses on measuring gene expression. The genome is typically made up of DNA, except in some viruses which utilize RNA. Typically, the process of gene expression involves the generation of RNA copies of specific regions of the genome by a process known as transcription. Such RNA copies are known as messenger RNAs. This messenger RNA may then be translated by the cell into a protein which may affect the activity of the cell or the larger organism. One prevalent form of gene expression analysis measures the levels of messenger RNA in a cell, in order to determine how the activity of particular genes or sets of genes affect the cell or the organism. According to a Kalorama Information report, the gene expression profiling market globally was approximately $1.1 billion in 2006 and is expected to grow to over $2.4 billion by 2012, representing a compounded annual growth rate of 14%.

Genotyping. Genotyping involves the analysis of variations across individual genomes. A common application of genotyping focuses on analyzing variations of single nucleotides, known as a single nucleotide polymorphism, or SNP. In SNP genotyping studies, statistical analyses are performed to determine whether a SNP or group of SNPs are associated with a particular characteristic, such as propensity for a disease. Haplotyping is an application of genotyping in which SNPs located at different loci on the same chromosome are studied simultaneously. According to a Kalorama Information report, the SNP genotyping market globally was approximately $735 million in 2008 and is expected to grow to $1.3 billion in 2014, representing a compounded annual growth rate of 10%.

Digital PCR. Digital PCR allows researchers to detect nucleic acid sequences that are present in sample concentrations that are too small to be accurately measured by conventional methods. Digital PCR typically relies on standard PCR techniques, but increases their sensitivity by dividing a sample into hundreds or thousands of smaller samples and performing a PCR assay on each such sample. The ability to count the presence or absence of amplification in this assay format allows for absolute quantitative measurement capabilities. As a result, digital PCR can perform much more precise detection of rare mutations, popularly known as

needle-in-a-haystack detection, gene expression or copy number measurements as compared to real-time qPCR. Digital PCR has the potential to enable early detection of diseases and other conditions, thereby improving prospects for effective treatment.

Single Cell Analysis. Single cell analysis is an emerging area of genetic research that requires specialized tools and techniques. Genetic research typically involves the analysis of samples containing thousands of cells and many different cell types. When such samples are studied using gene expression analysis, the results obtained reflect a rough average of the activity of all of the cells in the sample. Recently, researchers have demonstrated that this approach often masks critical differences in gene expression levels between different cell types and even between individual cells of the same type. In addition, in the fields of in-vitro fertilization and stem cell research, researchers are often required to examine single cells because the number of cells available for analysis is inherently limited. The scope of this research has often been constrained because the small amount of genetic material in a single cell prevents conventional methods from analyzing the activity of more than a few genes. In addition, large numbers of samples are required to determine the heterogeneous signatures of sub-populations of cells and large studies like these can be prohibitively expensive when performed on conventional platforms. According to a Select Biosciences report, the single cell analysis market globally was approximately $69 million in 2009 and expected to grow to $576 million in 2015, representing a compounded annual growth rate of 42%.

Sample Preparation for Next Generation DNA Sequencing. Through a process known as sequencing, researchers are able to determine the particular order of nucleotide bases that comprise all or a portion of a particular genome. In the last few years, researchers have begun to use next generation DNA sequencers to rapidly and cost-effectively sequence large portions of the genomes of many individuals and identify genetic variations that correlate with particular characteristics. Next generation DNA sequencing technologies have dramatically reduced the cost and processing time for genetic sequencing, but to be utilized effectively, require large numbers of unique samples. In addition, next generation DNA sequencing requires new sample preparation methodologies including adding identification tags to each segment of each individual sample that is to be sequenced. These sample preparation and tagging processes, known as target enrichment, are complex and require precise measurement and manipulation of minute quantities of DNA and reagents.

Agricultural Biotechnology

Genetic analysis techniques such as SNP genotyping have become increasingly useful in Ag-Bio applications such as wildlife population studies, agricultural quality control and commercial genetic engineering. These applications typically require the analysis of hundreds or thousands of SNPs to achieve representative samples and attain useful information. Due to these demands, commercially viable genetic analysis tools in Ag-Bio must be inexpensive, easy to use and able to provide extremely high throughput. Below a certain cost per data point, we believe Ag-Bio customers would choose to analyze the genome of each animal or sample. Based on the number of livestock slaughtered in the United States annually and our understanding of the price per data point required for broad adoption among Ag-Bio customers, we estimate the annual market opportunity to be greater than $400 million for livestock customers alone. We believe the market opportunity for genotyping in seeds may represent a similar market opportunity.

Molecular Diagnostics

Recent advances in genetic analysis technology are increasingly being used for clinical applications. Techniques such as SNP genotyping, gene expression analysis and other genetic correlation studies are used to identify disease susceptibility and to diagnose, classify and monitor disease progression. Molecular diagnostic tests based on measuring these genetic markers have the potential to be much more accurate and robust than conventional diagnostics. Within molecular diagnostics, an area of significant unmet clinical need is NIPD for fetal aneuploidies, since the most reliable diagnostic tests currently available are invasive and carry risks to the fetus. Current physician guidelines recommend that all pregnant woman receive aneuploidy screening in the first

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trimester. Based on the number of births in the United States and the percentage of women that receive prenatal care, we believe that the potential market for an accurate non-invasive diagnostic test could be more than $1 billion annually in the United States alone. Markets in the European Union, India and China could represent significant additional demand. In collaboration with Novartis Vaccines & Diagnostics, Inc., or Novartis V&D, we are developing a microfluidic system to target this NIPD market for fetal aneuploidies.

The Limitations of Existing Laboratory Systems

Academic, clinical and industrial researchers are increasingly performing genetic analysis on large sample sizes and assay sets. These experiments are typically performed using systems consisting of 384 well or larger microplates, pipetting stations, robotic plate movers and other elements of laboratory equipment. However, these conventional systems require an extremely complex workflow involving thousands of pipetting steps, hundreds of microplates and, despite the use of robotics, extensive human intervention. Such complexity limits the throughput of laboratories and increases the possibility of errors and variability between experiments. In addition, these systems typically are unable to perform experiments with low fluid volumes, leading to excessive consumption of reagents and inconsistent results.

In response to the limitations of conventional systems, numerous other methods of genetic analysis, including microarrays, pre-formatted arrays, bead arrays, microdroplets and mass spectrometer analysis have been developed. However, each of these high-throughput methods has one or more limitations that reduce its utility particularly for mid-multiplex experimentation.

Microarrays, pre-formatted arrays and bead arrays all lack flexibility because researchers must specify the assays they wish to perform at the time the products are ordered. This in turn limits researchers ability to refine their assay panel during the course of a study. In addition, if researchers wish to use assay panels other than a manufacturer s standard panels, it may take weeks for a customized product to be produced.

The quality of the data produced by microarrays, pre-formatted arrays and mass spectrometer analysis is insufficient for certain research activities. For genotyping studies, data quality is typically measured by call rate, which is the frequency of a reading with respect to a particular SNP. Both pre-formatted arrays and mass spectrometer analysis generally have call rates lower than real-time qPCR performed in microplates. For gene expression studies, it is often important to measure expression levels over a broad dynamic range to capture all or most of the variation found among subjects. Microarrays, pre-formatted arrays, bead arrays or mass spectrometer analysis cannot measure gene expression levels over as broad a dynamic range as real-time qPCR performed in microplates.

The workflow for bead arrays and mass spectrometer analysis is complex, time consuming and costly. For example, standard protocols often require multiple complex operations to be performed over several days by skilled technicians. Also, certain pre-formatted arrays require significant manual intervention, which significantly increases costs and potential for error.

These methods can also be very costly for mid-multiplex experimentation. For example, a single microarray or bead array is capable of analyzing thousands of genes from a single sample. These devices have been successfully used for surveying the genome to discover basic patterns of genetic variation. These surveys are commonly performed on tens or hundreds of samples and are intended to identify a subset of genes for further investigation. However, for validation studies, which typically require the analysis of thousands or tens of thousands of samples, the high per sample cost of microarrays and bead arrays often make them uneconomical. Similarly, the high initial setup costs for mass spectrometry analysis generally make it economically feasible only for very large-scale studies.

While the cost and processing time for genetic sequencing has plummeted with next generation DNA sequencing technologies, improvements in sample preparation has lagged to the extent that sample preparation

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now represents the major bottleneck from both a cost and time perspective in the sequencing process. Microdroplet technologies have been proposed as a means to accelerate the sample preparation and tagging process for next generation DNA sequencing. However, this technique can process only one sample at a time, is expensive and cannot be validated prior to sequencing.

The limitations of existing technologies become even more acute when clinicians attempt to translate scientific research into commercial molecular diagnostics. Given the nature of their operations, commercial clinical laboratories need systems that can test large numbers of patient samples at low cost and with minimal labor requirements. Moreover, many of the most promising research studies rely on measuring each sample across tens or even hundreds of genetic markers to diagnose or classify a disease. We believe that using standard microplate technology to make multiple measurements on a large number of samples is often too complex and expensive for most clinical laboratories. Similarly, many of the limitations of microarrays, pre-formatted arrays, bead arrays and microdroplets also impact their ability to provide a broadly acceptable molecular diagnostic solution. As a result, the molecular diagnostic tests adopted by clinical laboratories have generally been relatively simple or have required specialized machines to perform. Diagnostic approaches that require measuring large numbers of genetic markers are generally not available or are available only from a diagnostic laboratory that specializes in the particular test.

Researchers, clinicians and commercial users need more robust systems that deliver increased throughput and simpler workflows with decreased costs.

The Fluidigm Solution

Our proprietary microfluidic systems are designed to significantly simplify experimental workflow, increase throughput, reduce costs, provide excellent data quality and in many instances enable genetic analysis that was previously impractical. Our microfluidic systems empower researchers and commercial customers to rapidly perform significantly more experiments or prepare significantly more samples all at one time and in nanoliter volumes with a combination of speed and accuracy that we believe cannot be achieved with other systems. Our systems deliver these advantages through the integration of sophisticated nanoliter fluid handling in an easy-to-use format that is compatible with most existing laboratory workflows and chemistries. Our systems are used in existing and emerging life science research and Ag-Bio markets, and we believe there are significant growth opportunities in additional markets.

We believe that our microfluidic systems have a number of compelling advantages over microplate systems and other mid-multiplex platforms including:

Data Quality. Our microfluidic systems provide exceptionally high quality data. In genotyping, our systems achieve greater than 99% call rate and call accuracy. For gene expression, our systems achieve 6 orders of magnitude of dynamic range with inter- and intra-chip reproducibility at correlation coefficients greater than 0.99.

Improved Throughput. Our base BioMark system can generate over 27,000 gene expression data points per day and our high throughput configurations of our systems can generate over 110,000 data points per day, with a time to first result measured in hours. Some competing systems may offer comparable data points per day, but may take up to a week for first results. Other systems offer comparable time to first result, but produce fewer data points per day, and often with lower data quality. Our improved throughput reduces the time and cost associated with complex experiments and expands the number and range of experiments that may be conducted.

Ease of Use. Loading our 96.96 Dynamic Array chip requires 192 pipetting steps as compared to 18,432 steps required to load the number of 384 well microplates required for the same experiment. Difficulties encountered with some competing systems include manual sample loading and chip alignment that often results in lower throughput. We believe our microfluidic systems efficient workflow reduces time, cost and potential for error.

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Flexibility. Our chips are built on input frames that are compatible with most commonly used laboratory systems, including existing robotic pipetting systems, bar code readers, plate handling systems and other equipment. Our chips are also designed to work with standard chemistries, including TaqMan and other reagents. In addition, our chips give researchers the flexibility to develop and load their own assays, unlike some competing products that can be used only to analyze specific genes or that are supplied pre-configured with fixed content.

Nanoliter Precision. Our microfluidic systems allow users to dispense samples and reagents in microliter volumes which are automatically partitioned, combined or mixed in nanoliter and sub-nanoliter volumes. In addition to cost and workflow benefits, this capability makes it practical for users to conduct certain high sensitivity, low volume techniques, such as digital PCR and single cell analysis.

Cost Effectiveness. We believe our high throughput systems offer a compelling cost benefit for high volume users. Our systems consume reagents in nanoliter volumes, have the ability to conduct thousands of parallel experiments on one chip, and offer customers the flexibility to use lower cost reagents as needed.

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We provide complete microfluidic systems consisting of instruments and consumables, including chips and reagents. Our systems are easily incorporated into our customers laboratory environments and analysis workflow. For example, our chips are the same size and shape as standard 384 well microplates and other chip consumables, which facilitate the loading and handling of our chips by standard laboratory equipment. Each of our chips includes an elastomeric, or rubber-like, core that contains an extensive network of microfluidic components that deliver samples and reagents to thousands of nanoliter volume chambers where individual assays are performed. Our primary product offerings are summarized in the table below:

Product	Product Description	Applications
Instruments		
BioMark System	Real-time PCR instrument, bundled analysis software and chip loading platforms	Digital PCR, SNP Genotyping, Gene Expression
EP1 System	Real-time PCR instrument, bundled analysis software and chip loading platforms	Digital PCR, SNP Genotyping
Access Array System	Sample preparation system that facilitates parallel amplification of 48 unique samples	Next Generation DNA Sequencing
Consumables		
Dynamic Array Chips	Microfluidic chip based on matrix architecture, allowing users to generate up to 9,216 real-time qPCR reactions simultaneously	Real-time qPCR, SNP Genotyping, Gene Expression
Digital Array Chips	Microfluidic chip based on partitioning architecture, allowing users to divide each of 48 separate samples into 770 smaller samples	Digital PCR, Gene Expression, Copy Number Variation, Mutation Detection
Access Array Chips	Microfluidic chip that facilitates parallel amplification, barcoding and tagging of 48 unique samples	Next Generation DNA Sequencing
Multi-use Chips	Reusable microfluidic chip that can be used up to five times and is able to produce up to 11,520 genotypes over its lifespan	SNP Genotyping

Current Commercial Applications

We believe our microfluidic systems offer distinct advantages in each of our target markets:

Life Science Research

Gene Expression and Genotyping. Our systems provide researchers a flexible and easy to use tool for generating high quality data. Competing technologies, such as pre-formatted arrays, bead arrays and microarrays,

are limited and inflexible because they require nucleic acid sequences on the device to be pre-specified when the chip or other consumable is manufactured. In contrast, our microfluidic systems allow researchers to utilize and easily tailor their assays to meet their experimental needs, which can shorten the analytical cycle for a given study to hours instead of weeks. We believe our systems also offer meaningful cost savings because they operate on nanoliter volumes of reagents and samples, which are between 0.5% and 1.0% of the amount required by conventional microplate systems.

For example, a consortium consisting of a major research university, a fertility clinic and a regenerative medicine and research group has utilized our systems to conduct research in in-vitro fertilization. By performing individual expression profile analyses, this group has discovered a set of factors implicated in the survival and maturation of human eggs, leading to improved success in fertility clinics.

Digital PCR. Our BioMark and EP1 systems can be used for digital PCR, a process in which samples are partitioned into minute reaction volumes containing individual DNA strands to enable digital counting for more accurate DNA quantification. Digital PCR has been used for a number of different applications, including absolute quantification, determination of genomic copy number variation and detection of rare mutations. Although several competitors are currently developing digital PCR systems, we were the first to introduce and successfully commercialize a digital PCR system in 2006. For example, pharmaceutical and biotechnology companies are taking advantage of the increased sensitivity enabled by our digital PCR technology to detect genetic mutations that are linked to drug efficacy and monitor cancer remission.

Single Cell Analysis. The integrated workflow and precision of our systems enable researchers to perform gene expression analysis on single cells on a scale that is impractical with conventional systems. Information gathered on cell activities has traditionally been obtained from populations of cells due to technological limitations on the ability to examine each individual cell. Our systems are able to precisely divide the limited amount of sample material extractable from a single cell into a multitude of divisions, and then accurately assay each such minute division. The high throughput of our systems allows researchers to analyze thousands of cells in this manner. For example, our base BioMark system can deliver over 27,000 single cell data points over 8 hours. Providing the combination of high throughput and data quality necessary for single cell analysis presents significant challenges that we believe most conventional systems are unable to address in a practical manner.

For example, our BioMark system has been used to help identify specific signatures of cancer stem cells, at the single cell level. Researchers believe that cancer stem cells are precursors to tumors and are often manifested well in advance of other tumor markers. By detecting and identifying such cells, researchers believe they can diagnose and treat cancer at a much earlier stage than with conventional methods. In addition, our BioMark system has been used to identify signatures of induced pluripotent stem, or iPS, cells. These iPS cells may have multiple applications in life science research and therapeutics. Similarly, our BioMark system has also been used to identify signatures of immune system cells, both pre- and post- exposure to antigens, to gain insight into improved vaccines and disease treatments.

Sample Preparation for Next Generation DNA Sequencing. To efficiently use next-generation sequencers to perform validation or other studies, researchers need to be able to prepare and tag samples from tens or hundreds of individuals prior to the samples being processed by the sequencers. Using conventional methods, this preparation and tagging must be done separately for each individual sample being processed, a laborious process that could take several days or more for a typical validation study. The streamlined workflow and flexibility of our systems allow samples from up to 48 individuals to be prepared and tagged in approximately three hours.

For example, a leading cancer research institute has utilized our Access Array system in conjunction with their next generation DNA sequencing platform to analyze key oncology genes across large cohorts of cancer samples. We believe such studies will advance the understanding of cancer etiology and potentially lead to the development of improved cancer treatments.

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Agricultural Biotechnology

Ag-Bio customers require systems that can quickly and accurately analyze a large number of samples, such as tissue from livestock populations or seeds from a production lot, in a cost efficient manner. The streamlined workflow of our systems allows customers to genotype a set of samples in approximately three hours as opposed to a day or more, which is the time required to prepare and run a set of samples on bead array systems. In addition, the call rate for our systems is much higher than for pre-formatted arrays or mass spectrometry, and our products offer significant cost advantages over competing systems.

For example, our BioMark system is being used to help create disease resistant strains of staple food crops for developing nations. Recently, certain genetic indicators have been identified that quickly and accurately fingerprint crops. By systematically analyzing over 300 specific genetic markers, the BioMark system helped our customer produce and deliver seeds that will grow into plants more likely to survive, leading to improved yields. This success has led to increased adoption of the BioMark system, which is now used to selectively breed other desirable food qualities and drive agricultural efficiency and natural resource conservation.

Potential Future Applications

The inherent design flexibility of our core technology allows us to build microfluidic systems that can provide significant benefits in a wide range of fields and industries. We believe these features could lead to a number of different commercial applications including:

Molecular Diagnostics. Life science research is revealing additional diseases and conditions that can be diagnosed, evaluated and monitored by measuring panels of gene expression levels, SNPs, proteins or other biomarkers. Validating these research findings and translating them into clinically available tests often requires life science automation systems that are able to measure multiple biomarkers efficiently in a large number of patient samples. Our existing microfluidic systems are able to measure certain nucleic acid biomarkers that are commonly used in these tests, and in the future, we expect to develop additional systems to measure other relevant biomarkers.

We believe that the high-throughput, flexibility and simplified workflow of our microfluidic systems could make them an attractive solution for validating and commercializing a wide range of molecular diagnostic tests being developed by researchers. Our microfluidic systems have not been cleared or approved by the U.S. Food and Drug Administration, or FDA, for use in any molecular diagnostic tests and we cannot currently market them for the purpose of performing molecular diagnostic tests. We are currently developing a microfluidic system with Novartis V&D for NIPD for fetal aneuploidies. A commonly used diagnostic procedure for fetal aneuploidies is amniocentesis, which typically costs approximately $1,500 to $2,000 per test. Our system is in its early stages of development, and prior to commercialization, FDA clearance or approval may be required.

Other Applications. We believe that the inherent design flexibility of our core microfluidic technology allows us to perform sophisticated biochemical processes relevant to a wide range of fields and industries. We are developing our microfluidic technology for additional applications, including:

Single Cell Capture and Processing. Researchers have increasingly focused on the study of single cells to better understand complex biological processes. We plan to apply our technology to make it easier to capture single cells and to increase the range of methods that can be used to interrogate a single cell.

Protein Assays. While the analysis of mRNA and DNA gives insight into the activity of biological systems, most biological activity in cells is carried out by proteins. We have developed a chip that allows quantitation of 18 proteins within 48 samples simultaneously. We believe that the sensitivity and specificity of this chip will be highly valuable to the life science research industry. In addition, we have demonstrated PCR-based protein quantification using commercially available reagents on our BioMark system.

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Cell Culture and Assays. We are developing an integrated microfluidic chip that enables cell culture to be performed in a highly automated fashion in a microfluidic environment. Our co-founder, Dr. Stephen Quake, recently used a prototype of our cell culture microfluidic chip to perform single cell studies of cell signaling, and published these results in the journal *Nature*.

Sample Preparation for Next Generation DNA Sequencing. In addition to the Access Array system, we have demonstrated a general architecture with the ability to use bead based purification steps in-chip, allowing sequential reactions with purification steps in between. While we have no immediate plans to commercialize this architecture, it may find utility in automated library prep for de novo next generation DNA sequencing.

Our microfluidic systems address the needs of researchers and clinicians who perform mid-multiplex experimentation in the areas of genetics, Ag-Bio and molecular diagnostics. In particular, for validation studies or projects of a similar scale, our microfluidic systems substantially reduce cost, simplify workflow and increase throughput as compared to conventional microplate systems. Nevertheless, researchers may be slow to adopt our microfluidic systems as they are based on technology that, compared to conventional technology, is new and less established in the industry. Moreover, many of the existing laboratories have already made substantial capital investments in their existing systems and may be hesitant to abandon that investment. While we believe our systems provide significant cost-savings, the initial price of our instruments and the price of our chips is higher than conventional systems and standard 384 well microplates. Our microfluidic systems are less well suited for smaller scale research initiatives where complexity and workflow issues may be less pressing and conventional systems may be more economical. In addition, for very large-scale association or survey projects, researchers may choose to use microarrays because of the ability of those products to measure thousands of genetic markers with a single device. As life science research continues to evolve and is commercialized, we believe that there will be increasing demand for life science automation solutions that enable experimentation on the scale supported by our microfluidic systems.

Strategy

We intend to continue growing as a global leader in providing microfluidic systems to the life science research and Ag-Bio markets. Our business strategy includes of the following elements:

Increase Penetration of our Microfluidic Systems. Our sales and marketing efforts have established our systems as leading solutions for certain high-throughput life science research applications. A growing number of companies and leading researchers around the world have recognized the benefits of our technical platform and are becoming much more visible in their support and endorsement of our products and technologies to their professional colleagues. From our inception through October 2010, the results of experiments based upon our microfluidic systems have been published in 116 peer-reviewed articles, 66 of which have been published since the beginning of 2009. We intend to leverage the growing market awareness of our current product offerings with enhanced sales and marketing efforts that include adding sales representatives in new geographies, accessing sales and marketing efforts of large partners though co-marketing agreements, continuing to build relationships with thought leaders in our target markets and helping our current supporters to become more visible to potential new customers.

Increase Recurring Consumables Revenue through Instrument Sales and Product Innovation. We intend to drive consumables revenue growth by increasing the number of installed instruments, integrating other value added operations and sample handling abilities into our chip architecture, increasing customer usage by decreasing the cost-per-data point and developing systems for additional applications.

Provide Assays and Design Services that Leverage our System Strengths in Key Application Areas. We provide assay design services that enable the use of our Access Array system to prepare samples for next generation DNA sequencing. In addition, we provide assay content for specific application areas, including cancer research, organ rejection, stem cell gene expression and other areas with potential clinical utility. We plan

to expand these offerings to include chemistries for gene expression, particularly for single cell analysis and genotyping. We believe these chemistries will increase the flexibility of our chips as well as improve cost per-assay and performance in our microfluidic platform.

Provide Expanded Offerings that Complement and Support our Core Technology Offerings. We intend to expand our product offerings to address additional stages of our customers workflow. We believe we can enhance the utility of our microfluidic system by providing additional workflow components to our customers, including systems to isolate, partition and amplify samples prior to analysis, and software and data analysis tools for downstream applications.

Leverage our Proprietary Technology to Address New Markets. We believe our technology is broadly applicable to biotechnology automation and could be further developed for a wide variety of additional applications, including protein expression analysis, new types of sample preparation cell culture and analysis and molecular diagnostics. Within molecular diagnostics, our initial area of focus is in NIPD for fetal aneuploidies, for which no approved non-invasive diagnostic currently exists.

Provide Superior Customer Service. We have a domestic and international direct sales force and support organization that offers technical solutions and customer support. Through direct relationships with our customers, we believe we are able to better understand their needs and apprise them of new product offerings and technological advances in our current systems, related instrumentation and software, while maintaining a consistent marketing message and high level of customer service. A key component of our value proposition is having capable, specialized, technical staff available to ensure that our customers are not only using our tools in an optimized fashion, but also designing experiments and choosing methodologies that will result in an optimized protocol in terms of both time and expense. We intend to expand the staff dedicated to customer service and support in important commercial geographies and in our headquarters.

Enhance Chip Manufacturing Efficiency. We intend to enhance our manufacturing efficiency through improvements in our existing processes, development of new chip designs and implementation of new manufacturing methods in order to improve our manufacturing yields and reduce our manufacturing costs. We believe that these improvements will enable us to deliver additional value to our customers and maintain or enhance our advantages over competing systems.

Continue to Develop our Technology and Intellectual Property Position. Our products are based on a set of related proprietary technologies that we have either developed internally or licensed from third parties. We intend to continue making significant investments in research and development to further expand and deepen our technological base. At the same time, we intend to maintain and strengthen our intellectual property position through the continued filing and prosecution of patents in the United States and internationally and through the in-licensing of third party intellectual property as appropriate.

Products

We actively sell three microfluidic systems, BioMark, EP1 and Access Array. These systems are based on one or more chips designed for particular applications and include specialized instrumentation and software. All of our systems include chip controllers that control the activation of valves, loading of reagents, and recovery or wash steps within the chips. Each chip controller comes with software to control chip and instrument operations for particular applications. The BioMark system includes a real-time PCR machine that comprises a thermal cycler for PCR and a fluorescence reader that can detect the results of reactions over time. The EP1 system includes stand-alone thermal cyclers and an end-point fluorescence reader. The EP1 thermal cycler supports fast PCR enabling the performance of high-throughput SNP genotyping. The BioMark and EP1 systems both include software to analyze, annotate and archive the data produced by the reader. The Access Array system includes a stand-alone thermal cycler and two chip controllers. We provide an extensive set of protocols and application notes with all of our systems to support specific scientific applications. All of our systems are designed to be compatible with standard laboratory automation equipment.

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The BioMark System for Genetic Analysis

Our BioMark system performs high-throughput gene expression analysis, SNP genotyping, single cell analysis and digital PCR using TaqMan, EvaGreen dye and other chemistries.

Fluidigm Dynamic Array Chips. Our Fluidigm 96.96 Dynamic Array chip is based on a matrix architecture and is capable of individually assaying 96 samples against 96 reagents, generating 9,216 reactions on a single chip. Our Fluidigm 48.48 Dynamic Array chip is based on the same architecture and is capable of individually assaying 48 samples against 48 reagents, generating 2,304 reactions. One version of each chip is optimized to perform gene expression analysis and another is optimized for genotyping. All assays are performed in volumes of 10 nanoliters or less. In 2010, we introduced the reusable FR 48.48 Dynamic Array chip. This chip is based upon the same matrix architecture as our standard 48.48 Dynamic Array chip, but can be cleaned by the customer and used up to 5 times.

Fluidigm Digital Array Chips. Our Fluidigm 48.770 Digital Array chip is based on partitioning architecture that divides each of up to 48 separate samples into 770 microscopic samples and then performs a PCR or other assay for each divided sample in 1 nanoliter or smaller volume. Our 12.765 Digital Array chip is based on the same architecture and divides up to 12 samples into 765 parts. These chips can be used for digital PCR applications such as rare mutation detection or copy number variation analysis.

BioMark Instrumentation and Software. Our chip controllers for the BioMark system fully automate the setup of Dynamic Array and Digital Array chips for real-time qPCR-based experiments and include software for implementing and tracking experiments. Our BioMark reader controls the PCR process and detects the fluorescent signals generated using a white light source, emission and excitation filters, precision lenses, a thermal cycler and a digital camera. We also offer various software packages that provide data analysis following data collection. Our analysis software shows data as a color-coded map of every position on the chip, such as for amplification curves and as numeric tabular data.

The EP1 System

The EP1 system performs SNP genotyping and end-point digital PCR using TaqMan, EvaGreen dye and other chemistries. Our EP1 System uses the same Dynamic Array and Digital Array chips that are used by our BioMark system. Because of its high throughput and focus on genotyping, the EP1 system is a preferred choice by our Ag-Bio customers for field implementation. In addition, we believe our reusable FR48.48 Dynamic Array chip and future reusable chips may be widely adopted by our Ag-Bio customers because they can substantially reduce the cost per data point for high volume users.

EP1 Instrumentation and Software. The chip controllers for the EP1 system fully automate the setup of chips for end-point SNP genotyping and digital PCR experiments, and include software for implementing and tracking experiments. Our EP1 reader detects fluorescent signals generated in our chips using a light source, emission and excitation filters, precision lenses and a digital camera. Our FC1 Cycler performs fast thermal cycling for chips and enables up to 12 Dynamic Array chips to be run per day. We also offer various software packages that provide data analysis following data collection. Our analysis software shows data as color-coded map of every position on the chip, cluster maps showing results for every assay, and as numeric tabular data.

The Access Array System

The Access Array system enables automated sample preparation and tagging, at a cost of $10 per sample or less, for all currently marketed next generation DNA sequencers. We believe the Access Array system is the only high throughput target enrichment system currently on the market that is capable of simultaneously processing multiple samples. The Access Array system can be used in conjunction with our BioMark system to provide real-time monitoring of amplification steps.

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Fluidigm Access Array Chips. Our Fluidigm 48.48 Access Array chip is based on an architecture similar to that of the Dynamic Array chip, but is designed to enable recovery of reaction products from the chip. This chip combines up to 48 samples with 48 primer sets prior to PCR amplification. This is accomplished with only 96 pipetting steps as compared to approximately 7,000 pipetting steps that would be required by conventional systems. After amplification, all 48 PCR products for each sample are recovered in a pool. When PCR primers are designed to include DNA tags for specific sequencers and DNA barcodes for each sample, samples from the Access Array chip can be loaded directly into the sequencer. The DNA barcodes can then be used to identify products from each sample from the sequence data. In addition, we have shown that we have been able to combine up to 10 unique primer pairs per primer set, allowing up to 480 samples per chip, which can then be tagged for specific sequencers in a secondary step.

Access Array Instrumentation. The Access Array system is comprised of two chip controllers and a single stand-alone thermal cycler. This system can load Access Array chips, amplify and tag the regions of interest, and recover the sample for loading into a next generation DNA sequencer.

Access Array Barcode Libraries and Access Array Content Service. We provide optimized barcoding primers, or Access Array Barcode Libraries, for use with Roche and Illumina sequencing platforms. When used with the 48.48 Access Array chip, the barcode library enables the user to pool products of different samples, perform amplification of all samples in parallel, and then sequence the pooled samples as a single sample. We also offer the Access Array Content Service to provide validated custom primer sets for users.

The TOPAZ System for Protein Crystallization

The TOPAZ System allows users to screen protein samples against a set of reagents in order to determine the optimum conditions for crystallizing a protein. While we currently offer TOPAZ systems and chips for sale, we do not actively market this system.

Technology

Our products are based on a tiered set of related proprietary technologies that we have either developed internally or licensed from third parties.

Multi-Layer Soft Lithography

Our chips are manufactured using a technology known as multi-layer soft lithography, or MSL. Using MSL technology, we are able to create valves, chambers, channels and other fluidic components on our chips at high density. We combine these components in complex arrangements that allow nanoliter quantities of fluids or drops to be precisely manipulated within the chip. Unlike most prior microfluidic technologies, our chips do not rely on electricity, magnetism or similar approaches to control fluid movement. Rather, they control fluid flow with valves. The most important components on our chips are our NanoFlex valves, which are created by the intersection of two channels on adjacent layers. When the valve is open, fluid is able to flow through the lower or flow channel. When the upper or control channel is pressurized, the material separating the two

channels is deflected into the lower channel, closing the valve and stopping fluid flow. If pressure is removed from the control channel, the channels return to their original form, and the valve is again open. The elastomeric properties of microfluidic chip cores allow our NanoFlex valves to form a reliable seal and cycle through millions of openings and closings.

The elastomer we currently use for our commercial products is a form of silicone rubber known as polydimethylsiloxane, or PDMS, but we have researched other materials with different properties for specific purposes. PDMS is transparent, which allows the fluids and their contents to be easily monitored with a variety of existing optical technologies, such as bright field, phase contrast or fluorescence microscopy. The gas permeability of PDMS allows the reliable metering of fluids with near picoliter precision by eliminating the

bubble problems encountered by most other microfluidic technologies: in essence, we are able to pump fluids into closed reaction chambers at sufficient pressure to drive any air out of the chamber directly through the chamber walls. This gas permeability also supports maintenance of cells in cell culture conditions. PDMS offers a favorable environment for many biochemical reactions, including PCR and cell culture.

We have developed commercial manufacturing processes to fabricate valves, channels, vias and chambers with dimensions in the 10 to 100 micron range, at high density and with high yields. For research purposes, we have created devices with both substantially smaller and larger features. Though our manufacturing is based on standard semiconductor manufacturing technologies and techniques, we have also developed novel processes for mold fabrication that enable mass production of high density chips with nanoliter volume features. These processes are sufficiently robust that new microfluidic designs can often be built using existing fabrication techniques, allowing for rapid innovation of new chip designs without needing manufacturing process or equipment changes.

Microfluidic Chips

Our chips incorporate several different types of technology that together enable us to use MSL to rapidly design and deploy new microfluidic applications.

Microfluidic Components. The first level of our chip technology is a library of components that perform basic microfluidic functions. We have proven designs for numerous elements, such as pumps, mixers, separation columns, control logic and reaction chambers. These are readily integrated to create circuits capable of performing a wide range of biochemical reactions. Even when it is necessary to integrate multiple elements to perform a particularly complex reaction, the area taken up on a circuit for a single reaction is small compared to our typical overall chip core size of three centimeters by three centimeters. As a result, we are routinely able to develop chips that perform thousands of reactions per square centimeter.

Architectures. The second level of our chip technology comprises the architectures we have designed to exploit our ability to conduct thousands of reactions on a single chip. The first of these is the Dynamic Array, a matrix architecture that allows multiple different samples and multiple different reagents to be loaded onto a single chip and then combined so that there is an isolated reaction between each sample and each reagent. The primary advantage of this architecture is that each sample and reagent is only handled by a pipette once per chip rather than once per reaction, as is the case with conventional microplate-based technologies. For example, a single 96.96 Dynamic Array chip can perform a total of 9,216 unique reactions between 96 samples and 96 reagents with only 192 pipetting steps. With conventional microplate-based technologies, the same experiment would require about 18,432 pipetting steps and at least 24 conventional microplates. Our Sample Processor architecture allows us to bring similar benefits to reactions which require export of the reaction product and more complex (multi-step) reactions. For example, our Access Array chip automates sample preparation for targeted resequencing by amplifying 48 genetic regions on each of 48 samples and exporting each prepared sample. Our Digital Array architecture allows a sample to be split into hundreds to tens of thousands of smaller samples. Separate reactions can then be conducted on each of the smaller samples. The cell processor automates cell seeding, culture, combinatorial dosing with multiple reagents, and export for further analysis.

Interface and Handling Frames. The third level of our chip technology involves the interaction of our chips with the actual laboratory environment. The core elastomeric block at the center of our chip is surrounded by specially designed frames that are able to deliver samples and reagents to the blocks. These frames are the same size as standard 384 well microplates and have sample and reagent input ports laid out in a standard 384 well microplate format. As a result, our chips can be loaded with standard laboratory pipetting robots and can be used with standard plate handling equipment. These frames also transmit the pressure and control signals from our instruments to the chip.

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Technological Advances. In the second quarter of 2002, we sold the first prototype of our 1.48 chip for our Topaz system, which featured 22 valves capable of 2.5 assays per square centimeter. Today we sell 48.770 Digital Array chips, with over 4,000 valves capable of more than 4,000 assays per square centimeter, a 181-fold increase in valve density and a 1,600-fold increase in assay capability. In our research and development laboratory, we have built and tested fully functional Digital Array chips capable of performing substantially more assays.

We have added capabilities to our chips in addition to increasing the density. In 2010, we employed our sample processor architecture to create the FR48.48 reusable Dynamic Array chips. With cleaning, each chip may be used five times, reducing the cost of each assay.

We also recently developed a second generation interface technology, which increases our number of chip control signals, or states, by nearly a factor of 10 (from 4 to 36). Since the number of chip states is approximately 2 raised to the power of the number of control signals, this represents a billion-fold increase in the number of states a chip may be set to; this advance means that the complexity of reactions that our chips may run is no longer meaningfully limited by the number of control lines. We expect to implement this architecture on commercial products in 2011.

Software and Instrumentation

We have developed instrumentation technology to load samples and reagents onto our chips and to control and monitor reactions within our chips. Our line of chip controllers consists of commercial pneumatic components and both custom and commercial electronics. They apply precise control of multiple pressures to move fluid and control valve states in an microfluidic chip. Our BioMark system consists of a custom thermal cycler packaged with a sophisticated fluorescence imaging system. Our FC1 cycler is a custom thermal cycler capable of very rapid cycling: 40 cycles in 30 minutes. Our EP-1 instrument is a fluorescence reader designed for endpoint imaging, suitable for digital PCR and genotyping applications. All of these instruments are designed to be easily introduced into standard automated lab environments.

We have developed specialized software packages to manage and analyze the unusually large amounts of data produced by our systems. Our BioMark system s gene expression analysis software automatically measures individual real-time qPCR reactions from fluorescent images and generates amplification threshold crossing values allowing researchers to readily perform complete normalized comparative gene expression analysis across large numbers of samples and assays. Similarly, our SNP Genotyping Analysis software automatically clusters fluorescent intensities from individual genotype reactions and makes genotype calls across individual and multiple chip runs. The Digital PCR Analysis software automatically calculates absolute copy number and copy number ratios from digital PCR experiments. Our Melting Curve Analysis software supports genotyping from data collected on the BioMark reader.

Protocols and Assays Design

We provide protocols to guide our customers in the use our products with commonly available molecular biology reagents for the analysis of their specific samples types. The set of protocols we offer are regularly expanded. For gene expression, we initially provided a protocol for TaqMan real-time reagents for general gene expression analysis. We now offer a protocol specifically for single cell analysis. We have also expanded the choices of reagents for our customers. In early 2010 we released a protocol for EvaGreen, a DNA binding dye for gene expression measurements with excellent data quality and a very low cost per assay. We also released protocols for the use of our microfluidic systems with Qiagen GmbH gene expression panels and Thermo-Fisher Solaris assays. For genotyping, we developed a protocol for using KASPar assays in the BioMark system.

PCR assay reagents need to be specific to the gene targets of interest. Since our systems analyze many gene targets at once, the process of designing a set of assays may delay the implementation experiments or require the

use of expensive pre-designed assays. To address this issue we have developed a computational method for rapid-turn PCR assay design. This process allows us to provide customers with validated assays for their targets of interest. We have commercialized this service for our Access Array customers and are developing the service for other applications.

In 2011, we plan on releasing assay design and custom content delivery systems for gene expression and genotyping that will allow customers to specify genes or SNP sites of interest and match them to region-specific primers, enabling our existing systems to amplify specific genetic regions of interest. We believe these assay design and content delivery systems will represent an improvement over conventional pre-defined panels by allowing customization based on cellular pathways or biological areas of interest.

In 2011, we plan on releasing gene expression and genotyping chemistries together with assay design services and pre-defined content. We expect these offerings will provide low-cost alternatives to chemistries such as Taqman and allow customers to use chips in more flexible ways. By specifying genes or SNP sites of interest and matching them to region specific primers, customers using our existing systems will be able to amplify specific genetic regions of interest at reduced cost without sacrificing data quality. In addition, these chemistries allow for more flexible formatting of samples and assays. For example, rather than using our 96.96 Dynamic Array chip to test 96 samples versus 96 assays, these new chemistries will allow customers to assay 1,152 samples versus 8 assays or 24 samples versus 384 assays.

Sales and Marketing

We distribute our instruments and supplies via direct field sales and support organizations located in North America, Europe and Japan and through distributors or sales agents in parts of Europe, Latin America and the Asia-Pacific region outside of Japan. Our domestic and international sales force informs our current and potential customers of current product offerings, new product introductions, and technological advances in our microfluidic systems, workflows, and notable research being performed by our customers or ourselves. As our primary point of contact in the marketplace, our sales force focuses on delivering a consistent marketing message and high level of customer service, while also attempting to help us better understand our customer needs. As of September 30, 2010, we have 62 people employed in sales, sales support and marketing, including 33 sales representatives and technical pre-sales specialists located in the field. Over half of this staff is located in the United States and dedicated to North American customers. We intend to significantly expand our sales, support and marketing efforts in the future.

Our sales and marketing efforts are targeted at laboratory directors and principal investigators at leading companies and institutions who need reliable life science automation solutions for their business or commercial purposes. We seek to increase awareness of our products among our target customers through regular contact, participation in tradeshows, on customer site seminars, academic conferences and dedicated company gatherings attended by prominent users and prospective customers from various institutions.

Our systems are relatively new to the market place and require a capital investment. As a result our sales process often involves numerous interactions and demonstrations with multiple people within an organization. Some potential customers conduct in-depth evaluations of the system including running experiments on our system and competing systems. In addition, in most countries, sales to academic or governmental institutions require participation in a tender process involving preparation of extensive documentation and a lengthy review process. As a result of these factors and the budget cycles of our customers, our sales cycle, the time from initial contact with a customer to our receipt of a purchase order, can often be 12 months or longer.

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Commercial Alliances

Co-Marketing Agreements for Next Generation Sequencing

We have entered into an agreement to co-market our Access Array system with 454 Life Sciences, a division of F. Hoffman-La Roche Ltd., a manufacturer of leading next generation DNA sequencing platforms. Per our agreement, we bundle our Access Array sample preparation system with our co-marketer s next generation DNA sequencing technologies. This agreement enables us to disseminate the benefits of using the products in combination, engage in co-operative marketing and messaging, including select dual presence at trade shows and technical seminars, perform selective specialization or utilization of each respective company s channel for promotional or sales activity and educate the direct and indirect distribution channels of both companies. The agreement does not preclude us from engaging in other activities of similar or related interest with other participants in the sequencing technology market and may be terminated by either party with notice. We have entered into a similar co-marketing agreement with another manufacturer of next generation DNA sequencing platforms.

Non-invasive Prenatal Diagnostics Collaboration

We entered into a set of related agreements with Novartis V&D, in May 2010. Under these agreements, our capabilities in digital PCR are being developed for potential in-vitro diagnostics applications, with an initial focus on the development of an NIPD test for fetal aneuploidies. These agreements provide Novartis V&D with an option to exclusively license our technology in the primary field of non-invasive testing for fetal aneuploidies and the secondary field of non-invasive testing of genetic abnormality, disease or condition in a fetus or in a pregnant woman (other than as tested in the primary field), RhD genotyping or carrier status in a pregnant woman and the genetic carrier status of a prospective mother and her male partner. Under these agreements, except with Novartis V&D, we cannot, directly or in collaboration with a third party, use, develop or sell any products or services in the primary field or the secondary field, other than for research applications in the secondary field. The agreements contain technical feasibility milestones in 2010 and 2011 and may be terminated by Novartis V&D at any time. At Novartis V&D s option, these agreements can be extended to encompass further research, development and commercialization of our products, which could take several years or more to complete. The agreements provide that if a test is commercialized, we would supply the required systems and chips for performance of such test.

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Customers

We have sold our BioMark, EP1 and Access Array systems to leading pharmaceutical and biotechnology companies, academic institutions, diagnostic laboratories and Ag-Bio companies. As of September 30, 2010, we have sold over 200 of these systems to customers in over 20 countries. The following is a representative list of our largest end-use customers by number of installed Biomark and EP1 systems in each of our current target markets:

Customer	Market	Application
National Cancer Institute / National Institute of Allergy and Infectious Diseases	Life Science Research	Genotyping Gene Expression Analysis Single Cell Analysis Next Generation Sequencing Digital PCR
Stanford University	Life Science Research	Gene Expression Analysis Single Cell Analysis Digital PCR Next Generation Sequencing
MedImmune, LLC	Life Science Research	Gene Expression Analysis
Tokyo University	Life Science Research	Single Cell Analysis Digital PCR
Genentech, Inc.	Life Science Research	Gene Expression Digital PCR
Novartis	Life Science Research	Digital PCR Gene Expression
Bayer CropScience AG	Ag-Bio	Genotyping
Alaska Department of Fish and Game	Ag-Bio	Genotyping

Manufacturing

Our manufacturing operations are located in Singapore and fabricate all of our microfluidic systems and instrumentation for commercial sale, as well as for internal research and development purposes. Our Singapore facility commenced operations in October 2005 and established full process capability for the Topaz chip in June 2006 and for our first Dynamic Array chip, the 48.48 Dynamic Array chip in October 2006. During 2009, we moved all of our manufacturing for commercial products to Singapore.

We established our manufacturing facility in Singapore to take advantage of the skilled workforce, supplier and partner network, lower operating costs and government support available there. Our microfluidic system manufacturing process includes photolithography and fabrication technologies that are very similar to those used in the fabrication of semiconductor chips. As a result, we are able to hire from a pool of skilled manpower created by the existing semiconductor industry in Singapore. Similarly, the Singapore semiconductor industry has created a broad network of potential suppliers and partners for our manufacturing operations. We are able to locally source a large proportion of the raw materials required in our processes and have been able to collaborate with local engineering companies to develop enabling technologies chip fabrication.

Our manufacturing operations in Singapore have been supported by grants from the Singapore Economic Development Board, or EDB, which provides incentive grant payments for research, development and manufacturing activity in Singapore. Our arrangements with EDB require us to maintain a significant and increasing manufacturing and research and development presence in Singapore.

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We expect that our existing manufacturing capacity for instrumentation and chips is sufficient to meet our needs at least through mid-2012. However, we are considering developing additional capacity to ensure that all or most of our products are produced by at least two different facilities. We believe that having dual sources for our products would help mitigate the potential impact of a production disruption at any one of our facilities and that such redundancy may be required by our customers in the future. We have not determined the timing or location of any additional manufacturing capacity.

We rely on a limited number of suppliers for certain components and materials used in our systems. While we are in the process of qualifying additional sources of supply, we cannot predict how long that qualification process will last. If we were to lose one or more of our limited source suppliers, it would take significant time and effort to qualify alternative suppliers. Key components in our products that are supplied by sole or limited source suppliers include a specialized polymer from which our chip cores are fabricated and the specialized high resolution camera used in the reader for our BioMark system. We are in the midst of qualifying an alternate camera source, with the qualification scheduled to be completed in the first quarter. With respect to many of our suppliers, we are neither a major customer, nor do we have long term supply contracts. These suppliers may therefore give other customers needs higher priority than ours, and we may not be able to obtain adequate supply in a timely manner or on commercially reasonable terms.

Research and Development

We have assembled experienced research and development teams at our South San Francisco and Singapore locations with the scientific, engineering, software and process talent that we believe is required to grow our business.

New Product and Application Development

The largest component of our current research and development effort is in the areas of new products and new applications.

We plan to focus on enhancing our single cell analysis, cell preparation and cell culturing capabilities, strengthening our current product lines by further developing content and our existing chip architectures, and developing products to support molecular diagnostic applications.

Single Cell Analysis. We intend to strengthen the single cell analysis capability of the BioMark system by expanding our customers options for single cell procurement and downstream data analysis. For example, we are developing a system for single cell capture and preparation that will increase the types of samples that can be processed by the system as well as the types of usable preparation chemistry. We expect that this new system will be able to prepare samples both for BioMark system as well as for next generation sequencing.

Cell Culture System. We are developing system that will enable researchers to culture a large number of individual cells within separate chambers on a chip, control the conditions in which each cell is cultured, and then extract the cells for further analysis. With the support of a grant from the California Institute of Regenerative Medicine, we have developed a prototype system that demonstrates the technical feasibility of this application.

Assay Development. We plan to add both content and flexibility to our current product lines. For example, we plan to expand our Assay Design Service to support gene expression and genotyping applications. This expansion is intended to enable customers in those areas to reduce their assay costs without sacrificing data quality by purchasing assays directly from us. We also plan to introduce chemistries that will allow customers to use our chips in the manner that is most efficient for their particular projects. For example, rather than using our 96.96 Dynamic Array chip to test 96 samples versus 96 assays, these new chemistries will allow customers to assay 1,152 samples versus 8 assays or 24 samples versus 384 assays.

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Existing Architectures. We intend to develop additional products to strengthen the capabilities of our existing Dynamic Array and Digital Array architectures. For example, our existing 48.770 Digital Array chip can perform 36,960 reactions. We have developed prototype chips based on the Digital Array architecture that can perform 200,000 or more reactions and believe, that with further development, these chips could have substantial utility for research and molecular diagnostic applications.

Process Development

The second component of our research and development effort is process development. We continuously develop new manufacturing processes and test methods to drive down manufacturing cost, increase manufacturing throughput, widen fabrication process capability, and support new microfluidic devices and designs. In 2009, we opened a prototype fabrication facility at our Singapore manufacturing to fabricate prototype chips and test new fabrication processes. We invest in manufacturing automation, process changes and design modifications which historically have significantly improved yields and lowered the manufacturing costs of our chips.

New Technology Development

We have background research and development efforts to increase the density of components on our microfluidic systems and to lower the materials cost of our current production methods. We are evaluating new materials that can increase the functionality of existing products and that would allow our microfluidic systems to be used for a wider variety of biological and chemical reactions. Over the longer term, we are seeking ways to transfer functionality from instrumentation to chips to support development of field-based and point-of-care applications.

Our research and development expenses were $14.4 million, $14.0 million, $12.3 million and $10.1 million in 2007, 2008, 2009 and the nine months ended September 30, 2010, respectively. As of September 30, 2010, 60 of our employees were engaged in research and development activities.

Scientific Advisory Board

We maintain a scientific advisory board, consisting of members with experience and expertise in the field of microfluidic systems and their application, who provide us with consulting services. The scientific advisory board generally does not meet as a group but instead, at our request, the individual members advise us on matters related to their areas of expertise. We have entered into agreements with each of our advisors, other than Dr. Stephen Quake, that require them spend between 6 and 12 days each year advising us and provide for stock option grants to the advisor. Dr. Quake serves as chair of the Scientific Advisory Board pursuant to a broader consulting agreement with us. As Chairman, Dr. Quake advises us on the composition of the advisory board and is involved in discussions with us more frequently than other advisory board members. When the advisory board meets, Dr. Quake is responsible for setting the agenda for the meetings and chairing such meetings. Our scientific advisory board consists of the following members:

Stephen Quake, Ph.D. is a co-founder of Fluidigm and the chair of our scientific advisory board. He is a co-chair of the bioengineering department at Stanford University and an investigator of the Howard Hughes Medical Institute. Dr. Quake received a B.S. in Physics and a M.S. in Mathematics from Stanford University and a Ph.D. in Physics from Oxford University. Dr. Quake has been a member of our scientific advisory board since June 1999.

Frances H. Arnold, Ph.D. is the Dick and Barbara Dickinson Professor of chemical engineering and biochemistry at the California Institute of Technology. She is a member of the National Academy of Engineering and a fellow at the American Institute for Medical and Biological Engineering. Dr. Arnold received a B.S. in Mechanical and Aerospace Engineering from Princeton University and a Ph.D. in Chemical Engineering from the University of California, Berkeley. Dr. Arnold has been a member of our scientific advisory board since August 1999.

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James M. Berger, Ph.D. is a Professor of Biochemistry and Molecular Biology at the University of California, Berkeley and a member of the Physical Biosciences Division, Lawrence Berkeley National Laboratory. Dr. Berger received a B.S. in Biochemistry from the University of Utah and a Ph.D. in Biochemistry from Harvard University. Dr. Berger has been a member of our scientific advisory board since June 2002.

Carl Hansen, Ph.D. is an Assistant Professor in the Department of Physics and Astronomy at the University of British Columbia. Dr. Hansen received a Ph.D. and M.S. in Applied Physics from the California Institute of Technology and a B.S. in Engineering Physics/Electrical Engineering/Honors Math from the University of British Columbia. Dr. Hansen has been a member of our Scientific Advisory Board since May 2008.

Frank McCormick, Ph.D. is the David A. Wood Distinguished Professor of Tumor Biology and the E. Dixon Heise Distinguished Professor in Oncology at the University of California, San Francisco, or UCSF. He is also the director of UCSF s Comprehensive Cancer Center. He is a member of the Institute of Medicine and a fellow of The Royal Society. Dr. McCormick received a B.Sc. in Biochemistry from the University of Birmingham and a Ph.D. in Biochemistry from the University of Cambridge. Dr. McCormick has been a member of our scientific advisory board since November 2006.

Howard M. Shapiro, M.D. is a lecturer on Pathology at Harvard Medical School, a visiting scientist at the Rosenstiel Basic Medical Sciences Research Center at Brandeis University and a research associate in Medicine and Pathology at Beth Israel Hospital. Dr. Shapiro received a B.A. from Harvard College and an M.D. from New York University School of Medicine. Dr. Shapiro has been a member of our scientific advisory board since December 1999.

Richard N. Zare, Ph.D. is the Marguerite Blake Wilbur Professor of Natural Science and chair of the chemistry department at Stanford University. He is a member of the National Academy of Sciences, the American Academy of Arts and Sciences and the recipient of the National Medal of Science. Dr. Zare received a B.S. in Chemistry and Physics and a Ph.D. in Chemical Physics from Harvard University. Dr. Zare has been a member of our scientific advisory board since December 2000.

Competition

We compete with both established and development stage life science companies that design, manufacture and market instruments for gene expression analysis, genotyping, other nucleic acid detection and additional applications. For example, companies such as Affymetrix, Inc., Agilent Technologies, Inc., Caliper Life Sciences, Inc., Illumina, Inc., Life Technologies Corporation, Luminex Corporation, Roche Applied Science, NanoString Technologies, Inc., RainDance Technologies, Inc., Sequenom, Inc. and Wafergen Bio-Systems, Inc. have products for gene expression, genotyping, and/or sequencing that compete in certain segments of the market in which we sell our products. In addition, a number of other companies and academic groups are in the process of developing novel technologies for life science markets.

The life science automation industry is highly competitive and expected to grow more competitive with the increasing knowledge gained from ongoing research and development. Many of our competitors are either publicly traded or are divisions of publicly traded companies and enjoy several competitive advantages over us, including:

- significantly greater name recognition;
- greater financial and human resources;
- broader product lines and product packages;
- larger sales forces;
- larger and more geographically dispersed customer support organization;

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substantial intellectual property portfolios;

larger and more established customer bases and relationships;

greater resources dedicated to marketing efforts;

better established and larger scale manufacturing capability; and

greater resources and longer experience in research and development.

We believe that the principal competitive factors in our target markets include:

cost of capital equipment and supplies;

reputation among customers;

innovation in product offerings;

flexibility and ease of use;

accuracy and reproducibility of results; and

compatibility with existing laboratory processes, tools and methods.

To successfully compete with existing products and future technologies, we need to demonstrate to potential customers that the cost savings and performance of our technologies and products, as well as our customer support capabilities, are superior to those of our competitors. The regular introduction of new and innovative offerings is necessary to continue to differentiate our company from other, larger enterprises. Additionally, a well staffed commercial team in the field is required to successfully communicate the advantages of our products and overcome potential obstacles acceptance of our products. In addition ongoing collaborations and partnerships with key opinion leaders in the genetics fields are desirable to demonstrate both innovation and applicability of our products. These relationships create the need for retention of a large and talented specialized staff, and occasionally require the placement of products or supplies on a temporary basis at a customer facility to demonstrate applicability of our tool to a specific scientific application.

Intellectual Property Strategy and Position

Our core technology originated at the California Institute of Technology, or Caltech, in the laboratory of Professor Stephen Quake, who is a co-founder of Fluidigm. Dr. Quake, his students and their collaborators pioneered the application of multilayer soft lithography in the field of microfluidics. In particular, Dr. Quake s laboratory developed technologies that enabled the production of specialized valves and pumps capable of controlling fluid flow at nanoliter volumes. In a series of transactions, we exclusively licensed from Caltech the relevant patent filings relating to these developments. We have also entered into additional exclusive and non-exclusive licenses for related technologies from various companies and academic institutions.

Our patent strategy is to seek broad patent protection on new developments in microfluidic technology and then later file patent applications covering new implementations of the technology and new microfluidic circuit architectures utilizing the technology. As these technologies are implemented and tested, we file new patent applications covering scientific methodology enabled by our technology. Additionally, where appropriate, we file new patent applications covering instrumentation and software that are used in conjunction with our microfluidic systems.

We have developed our own portfolio of issued patents and patent applications directed at commercial products and technologies in development. For example, in part because of our pioneering commercialization efforts in the field of digital PCR, we have 14 patents and patent applications pending relating to devices, techniques and applications for digital PC, including methodologies for copy number variation and noninvasive prenatal diagnostics. We have additional patents and patent filings cell culture and single-cell isolation and

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analysis devices and associated methodologies, high density and reusable genotyping and gene expression chips and massive multiplexing techniques for samples and assays in these chips, sample processing and sample preparation chips and encoding technology for use with next-generation sequencers, and associated instrumentation and software for controlling and reading our chips and analyzing the data obtained from them.

As of November 30, 2010, we own or have licensed 114 issued U.S. patents and 80 issued international patents. There are 230 pending patent applications, including 104 in the United States, 113 international applications and 12 applications filed under the Patent Cooperation Treaty. The U.S. issued patents we have licensed from Caltech expire between 2017 and 2025; the U.S. issued patents we have licensed from other parties expire between 2012 and 2029.

The patent positions of companies like ours are generally uncertain and involve complex legal and factual questions. Our patents may not enable us to obtain or keep any competitive advantage. Our pending U.S. and foreign patent applications may not issue as patents or may not issue in a form that will be advantageous to us. Any patents we have obtained or do obtain may be challenged by re-examination, opposition or other administrative proceeding, or may be challenged in litigation, and such challenges could result in a determination that the patent is invalid. In addition, competitors may be able to design alternative methods or devices that avoid infringement of our patents. To the extent our intellectual property protection offers inadequate protection, or is found to be invalid, we are exposed to a greater risk of direct competition. If our intellectual property does not provide adequate protection against our competitors products, our competitive position could be adversely affected, as could our business. Both the patent application process and the process of managing patent disputes can be time consuming and expensive. Furthermore, the laws of some foreign countries may not protect our intellectual property rights to the same extent as do the laws of the United States.

In addition to pursuing patents on our technology, we have taken steps to protect our intellectual property and proprietary technology by entering into confidentiality agreements and intellectual property assignment agreements with our employees, consultants, corporate partners and, when needed, our advisors. Such agreements may not be enforceable or may not provide meaningful protection for our trade secrets or other proprietary information in the event of unauthorized use or disclosure or other breaches of the agreements, and we may not be able to prevent such unauthorized disclosure. Monitoring unauthorized disclosure is difficult, and we do not know whether the steps we have taken to prevent such disclosure are, or will be, adequate.

Our commercial success may depend in part on our non-infringement of the patents or proprietary rights of third parties. Third parties have asserted and may assert in the future that we are employing their proprietary technology without authorization. Competitors may assert that our products infringe their intellectual property rights as part of a business strategy to impede our successful entry into those markets. In addition, our competitors and others may have patents or may in the future obtain patents and claim that use of our products infringes these patents. We could incur substantial costs and divert the attention of our management and technical personnel in defending against any of these claims. Parties making claims against us may be able to obtain injunctive or other relief, which could block our ability to develop, commercialize and sell products, and could result in the award of substantial damages against us. In the event of a successful claim of infringement against us, we may be required to pay damages and obtain one or more licenses from third parties, or be prohibited from selling certain products. We may not be able to obtain these licenses at a reasonable cost, if at all.

Government Regulation

Pursuant to its authority under the Federal Food, Drug and Cosmetic Act, or FFDCA, FDA has jurisdiction over medical devices, which are defined to include, among other things, in vitro diagnostic products, or IVDs. Our products are currently labeled and sold for research purposes only, and we sell them to pharmaceutical and biotechnology companies, academic institutions and life sciences laboratories. Because our products are not intended for use in clinical practice in the diagnosis of disease or other conditions, they do not fit the definition of a medical device under the FFDCA and thus are not subject to regulation by the U.S. Food and Drug

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Administration, or FDA, as medical devices. In particular, while FDA regulations require that research only products be labeled, For Research Use Only. Not for use in diagnostic procedures , the regulations do not subject such products to FDA s pre- and post-market controls for medical devices. However, in the future, certain of our products or related applications could become subject to regulation as medical devices by FDA.

For example, if we wish to label and market our products for use in performing clinical diagnostics, thus subjecting them to regulation by FDA as medical devices, unless an exemption applies, we would be required to obtain either prior 510(k) clearance or prior pre-market approval from the FDA before commercializing the product. The FDA classifies medical devices into one of three classes. Devices deemed to pose lower risk to the patient are placed in either class I or II, which, unless an exemption applies, requires the manufacturer to submit a pre-market notification requesting FDA clearance for commercial distribution pursuant to Section 510(k) of the FFDCA. This process, known as 510(k) clearance, requires that the manufacturer demonstrate that the device is substantially equivalent to a previously cleared 510(k) device or a pre-amendment class III device for which pre-market approval applications, or PMAs, have not been required by the FDA. This process typically takes from four to twelve months, although it can take longer. Most class I devices are exempted from this requirement. Devices deemed by FDA to pose the greatest risk, such as life-sustaining, life-supporting or implantable devices, or those deemed not substantially equivalent to a legally marketed predicate device, are placed in class III. Class III devices typically require PMA approval. To obtain PMA approval, an applicant must demonstrate the safety and effectiveness of the device based, in part, on data obtained in clinical studies. PMA reviews generally last between one and two years, although they can take longer. Both the 510(k) and the PMA processes can be expensive and lengthy and may not result in clearance or approval. If we are required to submit our products for pre-market review by the FDA, we may be required to delay marketing while we obtain premarket clearance or approval from the FDA. There would be no assurance that we could ever obtain such clearance or approval.

Changes to a device that have received PMA approval typically require a new PMA or PMA supplement. Changes to a device that received 510(k) clearance which could significantly affect its safety or effectiveness, or that would constitute a major change in its intended use, require a new 510(k) clearance or possibly PMA approval. The FDA requires each manufacturer to make this determination initially, but the FDA can review any of these decisions and may disagree. If the FDA disagreed with our determination not to seek a new 510(k) clearance for a change to a previously marketed product, the FDA could require us to seek a new 510(k) clearance or pre-market approval. The FDA also could require us to cease manufacturing and/or recall the modified device until 510(k) clearance or pre-market approval was obtained. Also, in these circumstances, we could be subject to warning letters, significant regulatory fines or penalties, seizure or injunctive action, or criminal prosecution.

In some cases, our customers or collaborators may use our products in their own LDTs or in other FDA-regulated products for clinical diagnostic use. The FDA has historically exercised enforcement discretion in not enforcing the medical device regulations against LDTs. However, the FDA could assert jurisdiction over some or all LDTs, which may impact our customers uses of our products. A significant change in the way that the FDA regulates our products or the LDTs that our customers develop may require us to change our business model in order to maintain compliance with these laws. The FDA recently held a meeting in July 2010, during which it indicated that it intends to reconsider its policy of enforcement discretion and to begin drafting a new oversight framework for LDTs.

If our products become subject to regulation as a medical device, we would become subject to additional FDA requirements, and we could be subject to unannounced inspections by FDA and other governmental authorities, which could increase our costs of doing business. Specifically, manufacturers of medical devices must comply with various requirements of the FFDCA and its implementing regulations, including:

- the Quality System Regulation, which covers the methods and documentation of the design, testing, control, manufacturing, labeling, quality assurance, packaging, storage and shipping of our product;

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- labeling regulations;
- medical device reporting, or MDR, regulations;
- correction and removal regulations; and
- post-market surveillance regulations, which include restrictions on marketing and promotion.

We would need to continue to invest significant time and other resources to ensure ongoing compliance with FDA quality system regulations and other post-market regulatory requirements.

Our failure to comply with applicable FDA regulatory requirements, or our failure to timely and adequately respond to inspectional observations, could result in enforcement action by the FDA, which may include the following sanctions:

- fines, injunctions and civil penalties;
- recall or seizure or our products;
- operating restrictions, partial suspension or total shutdown of production;
- delays in clearance or approval, or failure to obtain approval or clearance of future product candidates or product modifications;
- restrictions on labeling and promotion;
- warning letters, fines, or injunctions;
- withdrawal of previously granted clearances or approvals; and
- criminal prosecution.

International sales of medical devices are subject to foreign government regulations, which vary substantially from country to country. The primary regulatory environment in Europe is that of the European Union, or EU, which includes most of the major countries in Europe. Currently, 27 countries make up the EU. Other countries, such as Switzerland, have voluntarily adopted laws and regulations that mirror those of the EU with respect to medical devices. The EU has adopted numerous directives and standards regulating the design, manufacture, clinical trials, labeling and adverse event reporting for medical devices. Devices that comply with the requirements of a relevant directive will be entitled to bear the CE conformity marking, indicating that the device conforms to the essential requirements of the applicable directives and, accordingly, can be commercially distributed throughout Europe.

Outside of the EU, regulatory approval needs to be sought on a country-by-country basis in order to market medical devices. Although there is a trend towards harmonization of quality system standards, regulations in each country may vary substantially which can affect timelines of

introduction.

Employees

As of September 30, 2010, we had 198 employees, of which 60 work in research and development, 31 work in general and administrative, 48 work in manufacturing and 59 work in sales and marketing.

None of our employees are represented by a labor union or are the subject of a collective bargaining agreement.

Property and Environmental Matters

We lease approximately 30,000 square feet of office and laboratory space at our headquarters in South San Francisco, California under a lease that expires in April 2015, approximately 28,000 square feet of manufacturing

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and office space at our facility in Singapore under leases with varying expiration dates from October 2011 through July 2013. In addition, we lease office space in Paris, France, and Tokyo and Osaka, Japan on a month-to-month basis. We believe that our existing office, laboratory and manufacturing space, together with additional space and facilities available on commercially reasonable terms, will be sufficient to meet our needs for at least the next two years.

Our research and development and manufacturing processes involve the controlled use of hazardous materials, including flammables, toxics, corrosives and biologics. Our research and manufacturing operations produce hazardous biological and chemical waste products. We seek to comply with applicable laws regarding the handling and disposal of such materials. Given the small volume of such materials used or generated at our facilities, we do not expect our compliance efforts to have a material effect on our capital expenditures, earnings and competitive position. However, we cannot eliminate the risk of accidental contamination or discharge and any resultant injury from these materials. We do not currently maintain separate environmental liability coverage and any such contamination or discharge could result in significant cost to us in penalties, damages and suspension of our operations.

Legal Proceedings

We are not currently engaged in any material legal proceedings.

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MANAGEMENT

Executive Officers and Directors

Our executive officers and directors, and their ages and positions as of November 30, 2010 are as set forth below:

Name	Age	Position
Gajus V. Worthington	40	President, Chief Executive Officer and Director
Vikram Jog	54	Chief Financial Officer
Fredric Walder	53	Chief Business Officer
Robert C. Jones	55	Executive Vice President, Research and Development
William M. Smith	59	Vice President, Legal Affairs, General Counsel and Secretary
Mai Chan (Grace) Yow	51	Vice President, Worldwide Manufacturing and Managing Director of Fluidigm Singapore Pte. Ltd.
Samuel Colella(2)(3)	71	Director
Jeremy Loh	39	Director
Kenneth Nussbacher(1)(3)	57	Director
Raymond J. Whitaker(1)(2)	63	Director
John A. Young(1)(3)	78	Director

(1) Member of the Audit Committee
(2) Member of the Compensation Committee
(3) Member of the Nominating and Governance Committee

Executive Officers

Gajus V. Worthington is a Co-Founder of Fluidigm and has served as our President and Chief Executive Officer and a Director since our inception in June 1999. From May 1994 to April 1999, Mr. Worthington held various staff and management positions at Actel Corporation, a public semiconductor corporation. Mr. Worthington received a B.S. in Physics and an M.S. in Electrical Engineering from Stanford University.

Vikram Jog has served as our Chief Financial Officer since February 2008. From April 2005 to February 2008, Mr. Jog served as Chief Financial Officer for XDx, Inc., a molecular diagnostics company. From March 2003 to April 2005, Mr. Jog was a Vice President of Applera Corporation, a life science company that is now part of Life Technologies, Inc., and Vice President of Finance for its related businesses, Celera Genomics and Celera Diagnostics. From April 2001 to March 2003, Mr. Jog was Vice President of Finance for Celera Diagnostics and Corporate Controller of Applera Corporation. Mr. Jog received a Bachelor of Commerce degree from Delhi University and an M.B.A. from Temple University. Mr. Jog is a member of the American Institute of Certified Public Accountants.

Fredric Walder has served as our Chief Business Officer since May 2010. From August 1992 to April 2010 he served in various senior executive positions at Thermo Fisher Scientific, a laboratory equipment and supplies manufacturer, including as Senior Vice President, Customer Excellence from November 2006 to April 2010 and Division President, Thermo Electron Corporation from January 2000 to November 2006. Mr. Walder holds a B.S. in Chemistry from the University of Massachusetts.

Robert C. Jones has served as our Executive Vice President, Research and Development since August 2005. From August 1984 to July 2005, Mr. Jones held various managerial and research and development positions at Applied Biosystems, a laboratory equipment and supplies manufacturer that was a division of Applera Corporation, including: Senior Vice President Research and Development from April 2001 to August 2005, Vice President and General Manager Informatics Division from 1998 to 2001, and Vice President PCR Business Unit from 1994 to 1998. Mr. Jones received a BSEE in Electrical Engineering and an MSEE in Computer Engineering from the University of Washington.

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William M. Smith has served as our Vice President, Legal Affairs and General Counsel as well as our Secretary since May 2000 and served as a Director from May 2000 to April 2008. Mr. Smith served as an associate and then as a partner at the law firm of Townsend and Townsend and Crew, LLP from 1985 through April 2008. Mr. Smith received a J.D. and an M.P.A. from the University of Southern California and a B.A. in Biology from the University of California, San Diego.

Mai Chan (Grace) Yow has served as our Vice President, Worldwide Manufacturing, and Managing Director, Fluidigm Singapore Pte. Ltd., our Singapore subsidiary, since March 2006. From June 2005 to March 2006, Ms. Yow served as General Manager of Fluidigm Singapore Pte. Ltd. From August 2004 to May 2005, Ms. Yow served as Vice President Engineering (Asia) for Kulicke and Soffa, a public semiconductor equipment manufacturer. From March 1991 to July 2004, Ms. Yow served as Director, Assembly Operations, Plant Facilities and EHS, for National Semiconductor Singapore, a semiconductor fabrication subsidiary of National Semiconductor Corporation. Ms. Yow received a B.E. in Electronic Engineering from Curtin University, a Certificate in Management Studies from the Singapore Institute of Management and a Diploma in Electrical Engineering from Singapore Polytechnic.

Board of Directors

Samuel Colella has served as a member and Chairman of our board of directors since July 2000. Mr. Colella is a managing director of Versant Ventures, a healthcare venture capital firm he co-founded in 1999, and has been a general partner of Institutional Venture Partners since 1984. Mr. Colella is currently a member of the board of directors of Alexza Pharmaceuticals, Inc., Genomic Health, Inc. and Jazz Pharmaceuticals, Inc. and served on the board of directors of Solta Medical, Inc. from 1997 to 2007 and Symyx Technology, Inc. from 1997 to 2007. Mr. Colella received a B.S. in business and engineering from the University of Pittsburgh and an M.B.A. from Stanford University. We believe that Mr. Colella s qualifications to serve on our board and as Chairman include his broad understanding of the life science industry and his extensive experience working with emerging private and public companies, including prior service as chairman of boards of directors.

Jeremy Loh has served as a member of our board of directors since November 2010. Dr. Loh is a Vice President (Investments), San Francisco Centre for EDB Investments Pte Ltd, Singapore, which he joined in 2007. Dr. Loh had his postdoctoral training as a research scientist at Agency for Science, Technology and Research, or A*STAR, Singapore and Imperial College London. He has a Doctorate in Mechanical Engineering from the University of Southampton, U.K., and a Masters in Mechanical Engineering from Nanyang Technological University, Singapore. We believe Dr. Loh s qualifications to serve on our board include his background as a bioengineer, his experience in developing micro and nano devices and his experience managing investments in biomedical sciences companies for EDB Investments.

Kenneth J. Nussbacher has been a member of our board of directors since July 2003. From 2000 to 2009, Mr. Nussbacher served as an Affymetrix Fellow, a non-executive employee position, at Affymetrix, Inc., a biotechnology company. From 1995 to 2000, Mr. Nussbacher was Executive Vice President of Affymetrix, Inc. and from 1995 to 1997, he was also Chief Financial Officer of Affymetrix. Prior to joining Affymetrix, Mr. Nussbacher was Executive Vice President for business and legal affairs of Affymax Technologies N.V. Mr. Nussbacher also served on the board of directors of Symyx Technology, Inc. from 1995 to 2008 and XenoPort, Inc. from 2000 to 2009. He received a B.S. in Physics from Cooper Union and a J.D. from Duke University. We believe Mr. Nussbacher s qualifications to serve on our board include his understanding of the genomic research market and his experience as a chief financial officer, a board member with other public and private companies and as an executive responsible for business, financial, intellectual property and other legal matters.

Raymond J. Whitaker has been a member of our board of directors since December 2008. He has been a general partner, since its inception in January 2000, of EuclidSR Partners, L.P., a venture capital firm that focuses on life sciences and information technology companies. From 2001 to 2007, Dr. Whitaker served on the board of directors of Avalon Pharmaceuticals, Inc. Dr. Whitaker is a graduate of University College, Dublin and received a Ph.D. in biochemistry and an M.B.A from the National University of Ireland. We believe that Mr. Whitaker s qualifications to serve on our Board include his experience working with life science companies both as an executive and an investor.

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Gajus V. Worthington is a Co-Founder of Fluidigm Corporation and has served as our President and Chief Executive Officer and a Director since our inception in June 1999. We believe that Mr. Worthington s qualifications to serve on our board include his understanding of our business, operations and strategy.

John A. Young has been a member of our board of directors since March 2001. Mr. Young retired as President and Chief Executive Officer of Hewlett-Packard Company, a diversified electronics manufacturer, in October 1992, where he had served as President and Chief Executive Officer since 1978. Mr. Young served as a director of Affymetrix, Inc. from 1992 until 2010, Vermillion, Inc., a molecular diagnostics company, from 1994 to 2008, and is currently a director of Nanosys, Inc., a nanotechnology company. Mr. Young received a B.S. in Electrical Engineering from Oregon State University and an M.B.A. from Stanford University. We believe that Mr. Young s qualifications to serve on our board include his extensive management experience.

Board Composition

Our board of directors is currently composed of six members. Immediately prior to this offering, our board of directors will be divided into three staggered classes of directors. At each annual meeting of stockholders, a class of directors will be elected for a three-year term to succeed the same class whose terms are then expiring. The terms of the directors will expire upon the election and qualification of successor directors at the Annual Meeting of Stockholders to be held during the years 2011 for the Class I directors, 2012 for the Class II directors and 2013 for the Class III directors.

Our Class I directors will be Raymond J. Whitaker and Jeremy Loh.

Our Class II directors will be John Young and Kenneth Nussbacher.

Our Class III directors will be Samuel Colella and Gajus Worthington.

Our amended and restated certificate of incorporation and bylaws provide that the number of our directors shall be fixed from time to time by a resolution of the majority of our board of directors. Each officer serves at the discretion of the board of directors and holds office until his successor is duly elected and qualified or until his or her earlier resignation or removal. There are no family relationships among any of our directors or executive officers.

The division of our board of directors into three classes with staggered three-year terms may delay or prevent a change of our management or a change of control. See Description of Capital Stock Anti-Takeover Effects of Delaware Law and Our Certificate of Incorporation and Bylaws for a discussion of other anti-takeover provisions found in our certificate of incorporation.

Director Independence

Upon the closing of this offering, our common stock will be listed on The NASDAQ Global Market. Under the rules of The NASDAQ Stock Market LLC, independent directors must comprise a majority of a listed company s board of directors within a specified period of the closing of its initial offering. In addition, the rules of The NASDAQ Stock Market LLC require that, subject to specified exceptions, each member of a listed company s audit, compensation, and nominating and corporate governance committees be independent. Audit committee members must also satisfy the independence criteria set forth in Rule 10A-3 under the Securities Exchange Act of 1934, as amended. Under the rules of The NASDAQ Stock Market LLC, a director will only qualify as an independent director if, the company s board of directors affirmatively determines that the person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director.

In order to be considered to be 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: (1) accept, directly or indirectly, any consulting, advisory or other compensatory fee from the listed company or any of its subsidiaries; or (2) be an affiliated person of the listed company or any of its subsidiaries.

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In December 2010, our board of directors undertook a review of its composition, the composition of its committees and the independence of each director. Based upon information requested from and provided by each director concerning his or her background, employment and affiliations, including family relationships, our board of directors has determined that none of Dr. Whitaker or Messrs. Colella, Nussbacher and Young, representing four of our six directors, has a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each of these directors is independent as that term is defined under the rules of The NASDAQ Stock Market LLC. In making this determination, our board of directors considered the relationships that each non-employee director has with our company and all other facts and circumstances our board of directors deemed relevant in determining their independence, including the beneficial ownership of our capital stock by each non-employee director.

Board Committees

Our Board has an audit committee, a compensation committee and a nominating and governance committee, each of which has the composition and the responsibilities described below.

Audit Committee. Our audit committee oversees our corporate accounting and financial reporting process and assists the Board in monitoring our financial systems and our legal and regulatory compliance. Our audit committee is authorized to, among other things:

- oversee the work of our independent auditors;
- approve the hiring, discharging and compensation of our independent auditors;
- approve engagements of the independent auditors to render any audit or permissible non-audit services;
- review the qualifications and independence of the independent auditors;
- monitor the rotation of partners of the independent auditors on our engagement team as required by law;
- review our financial statements and review our critical accounting policies and estimates;
- review the adequacy and effectiveness of our internal controls; and
- review and discuss with management and the independent auditors the results of our annual audit, our quarterly financial statements, and our publicly filed reports.

The members of our audit committee are Kenneth Nussbacher, Raymond Whitaker and John Young. Mr. Nussbacher is our audit committee chairman. Our board of directors has concluded that the composition of our audit committee meets the requirements for independence under the current requirements of The NASDAQ Stock Market LLC and SEC rules and regulations. We believe that the functioning of our audit committee complies with the applicable requirements of The NASDAQ Stock Market LLC and SEC rules and regulations.

Compensation Committee. Our compensation committee oversees our corporate compensation programs. Our compensation committee is authorized to, among other things:

- review and recommend policy relating to compensation and benefits of our officers and employees;

review and approve corporate goals and objectives relevant to compensation of our Chief Executive Officer and other senior officers;

evaluate the performance of our officers in light of established goals and objectives;

recommend compensation of our officers based on its evaluations; and

administer the issuance of stock options and other awards under our stock plans.

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The members of our compensation committee are Samuel Colella and Raymond Whitaker. Mr. Colella is the chairman of our compensation committee. Our board of directors has determined that each member of our compensation committee is independent within the meaning of the independent director guidelines of The NASDAQ Stock Market LLC. We believe that the composition of our compensation committee meets the requirements for independence under, and the functioning of our compensation committee complies with, any applicable requirements of The NASDAQ Stock Market LLC.

Nominating and Governance Committee. Our nominating and governance committee oversees and assists our Board of Directors in reviewing and recommending nominees for election as directors. The nominating and governance committee will also:

evaluate and make recommendations regarding the organization and governance of the board and its committees;

assess the performance of members of the board and make recommendations regarding committee and chair assignments;

recommend desired qualifications for board membership and conduct searches for potential Board members; and

review and make recommendations with regard to our corporate governance guidelines.

The members of our nominating and governance committee are Samuel Colella, Kenneth Nussbacher and John Young. Mr. Colella is our nominating and governance committee chairman. Our board of directors has determined that each member of our nominating and governance committee is independent within the meaning of the independent director guidelines of The NASDAQ Stock Market LLC.

Our board of directors may from time to time establish other committees.

Director Compensation

The following table sets forth information concerning compensation paid or accrued for services rendered to us by members of our board of directors for 2009. The table excludes Mr. Worthington, who is a named executive officer, and did not receive any compensation from us in his role as a director in 2009.

	Fees Earned or Paid in Cash ($)	Option Awards ($)(1)	Total ($)
Lawrence Chin(2)(5)	10,000		$ 10,000
Samuel D. Colella(5)(6)	30,000		$ 30,000
Michael Hunkapiller(3)(5)	10,000		$ 10,000
Kenneth J. Nussbacher(5)(6)	20,000	15,941(4)	$ 35,941
Raymond J. Whitaker(5)	10,000		$ 10,000
John A. Young(5)	10,000		$ 10,000

(1) Amounts represent the aggregate grant date fair value of the stock or option award calculated in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718, Stock Compensation, as amended, without regard to estimated forfeitures, or, with respect to re-priced options, the incremental fair value as computed in accordance with FASB ASC Topic 718. See Note 10 of the notes to our audited consolidated financial statements for a discussion of valuation assumptions made in determining the grant date fair value and compensation expense of our stock options.
(2) Resigned from the board of directors on November 9, 2010.
(3) Resigned from the board of directors on May 6, 2010.
(4) This option was originally granted on December 28, 2007 and was re-granted in December 23, 2009 in connection with our re-pricing.
(5) Non-employee director annual retainer of $10,000, for service as a member of the Board effective as of January 1, 2009 but the payment of which is contingent in its entirety on the completion of a round of financing of at least $5.0 million.

(6) Non-employee director annual retainer of $10,000 for service as chairman of the board or a committee of the board effective as of January 1, 2009 but the payment of which is contingent in its entirety on the completion of financing of at least $5.0 million.

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The aggregate number of shares subject to stock options outstanding at December 31, 2009 for each non-employee director is as follows:

Name	Aggregate Number of Stock Options Outstanding as of December 31, 2009
Lawrence Chin	
Samuel D. Colella	
Michael Hunkapiller	
Jeremy Loh	
Kenneth J. Nussbacher	57,142
Raymond J. Whitaker	
John A. Young	

Pre-Offering

Our board of directors adopted a compensation policy for non-employee directors on January 28, 2010 providing for an annual retainer of $10,000 for each non-employee director s service as a member of the board and a separate $10,000 annual leadership retainer for service as chairman of the board or a committee of the board, to be effective as of January 1, 2009. The payment of any such retainers was made contingent on the completion of a financing in which at least $5.0 million is raised. The policy also provided that each non-employee director will be automatically granted a stock option to purchase 15,000 shares of our common stock each year. Such stock option grants shall vest 1/12th per month, subject to such non-employee director s continued service on the board, such that the grant will be fully vested on the first anniversary of the vesting commencement date. These grants were made to each non-employee director on January 28, 2010.

Post-Offering

Upon consummation of our initial public offering, non-employee directors will receive an annual retainer of . The chairman of the audit committee will be paid an additional annual retainer of . The chairman of the compensation committee will be paid an additional annual retainer of . The chairman of the nominating and governance committee will be paid an additional annual retainer of .

Our outside director equity compensation policy was adopted by our board of directors on December , 2010 and will become effective immediately upon the completion of this offering. The policy is intended to formalize the granting of equity compensation to our non-employee directors under the 2011 Equity Incentive Plan. Non-employee directors may receive all types of awards under the 2011 Equity Incentive Plan, including discretionary awards not covered by the policy, except for incentive stock options. The policy provides for automatic and nondiscretionary grants of nonstatutory stock options subject to the terms and conditions of the policy and the 2011 Equity Incentive Plan.

Under the policy, we will automatically grant an option to purchase shares of our common stock to anyone who becomes a non-employee director following the effective date of the registration statement filed by us and declared effective with respect to any class of our securities, on the date such person first becomes a non-employee director. An employee director who subsequently ceases to be an employee, but remains a director, will not receive such an initial award.

In addition, each non-employee director will be automatically granted an annual stock option to purchase shares of our common stock on the date of each annual meeting beginning on the date of the first annual meeting that is held at least six months after such non-employee director received his or her initial award. In connection with the closing of this initial public offering, each non-employee director serving on our Board at the time of this offering will be automatically granted an option to purchase shares of our common stock at the price per share at which such common stock is sold in this offering.

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The exercise price of all stock options granted pursuant to the policy will be equal to or greater than the fair market value of our common stock on the date of grant. The term of all stock options will be 10 years. Subject to the adjustment provisions of the 2011 Equity Incentive Plan, initial awards will vest as to 25% of the shares subject to such awards on each anniversary of the date of grant, provided such non-employee director continues to serve as a director through each such date. Subject to the adjustment provisions of the 2011 Equity Incentive Plan, the annual awards, including such awards granted in connection with this offering, will vest monthly over a twelve month period following the date of grant, provided such non-employee director continues to serve as a director through such date.

The administrator of the 2011 Equity Incentive Plan in its discretion may change or otherwise revise the terms of awards granted under the outside director equity compensation policy.

In the event of a change of control, as defined in our 2011 Equity Incentive Plan, with respect to awards granted under the 2011 Equity Incentive Plan to non-employee directors, the participant non-employee director will fully vest in and have the right to exercise awards as to all shares underlying such award regardless of performance goals, vesting criteria or other conditions.

Code of Ethics and Employee Conduct

In December 2010, we adopted ethics and employee conduct that is applicable to all of our employees, officers and directors effective upon completion of this offering.

Compensation Committee Interlocks and Insider Participation

None of the members of our compensation committee is or was, during 2009, an officer or employee of our company. None of our executive officers currently serves, or in the past year has served, as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving on our board of directors or compensation committee.

Executive Compensation

Compensation Discussion and Analysis

Overview

We seek to have a compensation program that supports a team ethic among our management, fairly rewards executives for corporate and individual performance and provides incentives for executives to meet or exceed our short and long term goals. The primary components of our compensation program are base salary, an annual incentive bonus plan, and option awards. In addition, we provide our executive officers with severance and change of control benefits and typical health and other benefits that are available generally to all salaried employees. Historically our compensation committee has had principal responsibility for evaluating executive compensation and either the compensation committee or the independent members of our board of directors were responsible for final approval. After this offering, we expect our compensation committee will have principal responsibility for approving executive compensation following consultations with our independent directors. In addition, to comply with Rule 16b-3 of the Securities Exchange Act of 1934, we expect equity incentive for executive officers to be approved, on recommendation of the compensation committee, by a committee or our directors who qualify as non-employee directors pursuant to the rule.

For 2009, our named executive officers were:

Gajus Worthington, President and Chief Executive Officer,

Vikram Jog, Chief Financial Officer,

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William Smith, Vice President, Legal Affairs and General Counsel,

Robert Jones, Executive Vice President, Research and Development, and

Grace Yow, Vice President, Worldwide Manufacturing and Managing Director, Fluidigm Singapore.

Objectives and Principles of Our Executive Compensation

The primary goal of our executive compensation program is to ensure that we hire and retain talented and experienced executives who are motivated toward achieving or exceeding our short-term and long-term corporate goals. As a starting point, we believe that it is critical that our executive officers work together as a team and look beyond departmental lines to achieve overall corporate goals rather than focusing exclusively on individual departmental objectives. Our compensation philosophy is team oriented and our success is dependent on what our management team can accomplish together. Therefore, we seek to provide our named executive officers with comparable levels of base salary, bonuses and annual equity awards that are based largely on overall company performance.

In determining the form and amount of compensation payable to our named executive officers, we are guided by the following objectives and principles:

Team oriented approach to establishing compensation levels. Our team oriented approach is demonstrated by the fact that the salaries of our executive officers are very similar. While the compensation level of Mr. Worthington, our Chief Executive Officer, or CEO, is marginally higher than our other executive officers, it is based on our compensation philosophy of providing our named executive officers with comparable levels of compensation, rather than on levels reported in market surveys of other companies in the life science industry.

Compensation should relate directly to performance and incentive compensation should constitute a significant portion of total compensation. We strongly believe that executive compensation should be directly linked to our performance. Our compensation program is designed so that a significant portion of the potential compensation of all of our executive officers is contingent on the achievement of our business objectives. In rewarding performance, we seek to reward both short and long term performance. We expect our executive leadership to manage our company so that we achieve our annual goals while at the same time positioning us to achieve our longer term strategic objectives. Short term elements of compensation include annual salary reviews, stock option awards and incentive bonuses that are tied closely to achieving our corporate goals and, to a lesser extent, on achieving departmental performance objectives. Long term elements of compensation have historically been limited to stock options with multi-year vesting designed to retain executives and align their long term interests with those of our stockholders. In 2008, we began to grant stock options with performance related vesting to more closely align the options awards with performance.

Align compensation decisions with internal considerations rather than industry benchmarks. We believe that hiring and retaining well performing executives is important to our ongoing success. While we have at times reviewed generally available surveys on executive compensation to confirm that our compensation decisions do not result in compensation levels that are dramatically different from other companies in our industry, the compensation committee has not in the past attempted to benchmark our executive compensation against any particular indices or salary surveys. While occasional review of market surveys is considered helpful, the compensation committee has historically placed substantially greater weight on internal considerations than on position-specific pay differences found in the market.

Except as described below, neither the board of directors nor the compensation committee has adopted any formal or informal policies or guidelines for allocating compensation between cash and non-cash compensation, among different forms of non-cash compensation or with respect to long and short term performance. The determination of our board of directors or compensation committee as to the appropriate use and weight of each

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component of executive compensation is subjective, based on their view of the relative importance of each component in meeting our overall objectives and factors relevant to the individual executive. Historically, our board of directors has focused significantly on the affordability of our compensation arrangements. As a result, when weighting forms of compensation, our board of directors and the compensation committee have historically placed greater emphasis on non-cash equity incentive compensation together with base salary.

As a publicly held company, we may periodically engage the services of a compensation consultant to assist us in further aligning our compensation philosophy with our corporate objectives. In addition, in order to attract and retain key executives, we may be required to modify individual executive compensation levels to remain competitive in the market for such positions.

Compensation Process and Compensation Committee

During fiscal 2009 and through May 2010, the compensation committee consisted of Messrs. Colella, Nussbacher and Michael Hunkapiller, who was formerly a member of our board of directors. After Mr. Hunkapiller s resignation from the board, the compensation committee was restructured to consist of Messrs. Colella and Whitaker, each of whom is an independent director under the rules of The NASDAQ Stock Market LLC but is not a non-employee director for purposes of Rule 16b-3 under the Securities Exchange Act of 1934, as amended.

The compensation committee is responsible for evaluating our compensation structure and goals and individual compensation levels. Depending on the authority granted it to by the board of directors, the compensation committee either approves specific compensation decisions or makes recommendations to our board of directors for consideration and approval by the independent members of the board. The compensation committee makes its compensation recommendations based on input from Mr. Worthington and the judgment of its members based on their tenure and experience in our industry. The compensation committee has the responsibility for formulating, evaluating and recommending to our board of directors the compensation of our executive officers. Historically, our annual compensation review process has been initiated by Mr. Worthington who performs a review of the performance of each executive officer in the prior year and makes proposals regarding the elements of compensation, corporate and individual goals and compensation levels for our executive officers including himself. Mr. Worthington s proposals for compensation structure, goals and individual compensation levels are typically based on discussions with and directions from members of the compensation committee.

Compensation levels and mix for Mr. Worthington, our Chief Executive Officer, are recommended by the compensation committee based on the committee s assessment of our overall corporate performance and Mr. Worthington s contribution to that performance. While Mr. Worthington provides input on his compensation, he does not participate in compensation committee or board deliberations regarding his own compensation. As it does for other members of our executive team, the compensation committee determines Mr. Worthington s compensation based on achievement of corporate and departmental objectives, his individual performance, and compensation levels of other members of our executive team, rather than attempting to tie Mr. Worthington s compensation to a specific percentile of CEO compensation reported in market compensation surveys.

Subject to any limitations or guidelines that may be adopted by our board of directors in the future, the compensation committee has the authority to approve the grant of stock options or stock purchase rights to individuals eligible for such grants, including officers and directors. The compensation committee met four times during 2009 and has met three times during 2010.

The compensation committee has the authority under its charter to engage the services of outside advisors, compensation experts and others for assistance and has sole authority to approve the terms of any such engagement. The compensation committee did not engage any such advisors in 2009 and 2010 nor did it rely on any compensation surveys.

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Corporate and Departmental Performance Goals

2009 Corporate Goals. Our corporate and individual performance goals for each year are formulated by the board of directors with input from the compensation committee and our Chief Executive Officer. For 2009, five corporate goals were established. They were (i) achieving a specified level of revenue; (ii) achieving certain operating margins; (iii) limiting operating expenditures to a specified level; (iv) achieving target levels of funding and (v) generating a specified number of new customer leads. The compensation committee believed attaining these goals would take a high level of executive performance and that such goals would be very challenging given the difficult economic environment and the need to launch and obtain market acceptance of new products. The committee did not assign weights to these goals when they were approved but instead decided that it would assign weights to them when it determined cash bonuses and performance stock option vesting.

2009 Departmental Goals. Departmental goals for 2009 for each of our named executive officers were as follows:

Named Executive Officer	2009 Departmental Goals
Gajus Worthington, Chief Executive Officer	Achievement of all the goals specified for the other Named Executive Officers below, and achieving sales goals on a region by region basis. These sales goals include unit volumes for particular systems, dollar amounts of chip sales, and average selling prices of chips and instruments.
Vikram Jog, Chief Financial Officer	Raising target levels of capital, ensuring no material weakness or significant deficiencies in quarterly reviews and annual audit, ensuring the accurate and timely closing of our books and completion of our 2008 audit.
William Smith, Vice President, Legal Affairs and General Counsel	Maintaining intellectual property position for the BioMark business, reducing legal expenditures, raising target levels of capital, selling unit volumes of product and renegotiating a specified contract to reduce costs.
Robert Jones, Executive Vice President, Research and Development	Launching four specified products and achieving target cost levels for specified instrumentation.
Mai Chan (Grace) Yow, Vice President, Worldwide Manufacturing and Managing Director of Fluidigm Singapore	Launching specified products, achieving target cost levels for specified instrumentation and achieving target manufacturing yields for specified chips.

2010 Corporate Goals. Our 2010 corporate goals were proposed by Mr. Worthington and revised and approved by our compensation committee. They are: (i) achieving specified financial metrics relating to margins and net income; (ii) achieving a specified level of net cash flow; (iii) achieving product development milestones relating to new product launches, a partnership transaction and a peer-reviewed publication in a particular area; (iv) increasing our identified sales opportunities to specified levels for each of our three actively marketed microfluidic systems. The compensation committee believed attaining these goals would take a high level of executive performance and that certain goals, such as the financial metrics goals would be achievable only if there was a sustained improvement in economic conditions generally and in the life science industry in particular. As in 2009, the committee did not assign weights to these goals when they were approved but has reserved the authority to assign weights to them when determining bonuses and performance stock option vesting.

2010 Departmental Goals. The compensation committee did not define specific departmental goals in 2010 as it felt that the corporate goals were broad and challenging enough that it was sufficient that each department focus on achieving those goals. As such, the compensation committee intends to determine the departmental component of bonuses based on the extent to which each executive s performance contributed to achieving or not achieving the corporate goals.

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Elements of Executive Compensation

Our executive compensation program consists of four main elements: base salary, an annual incentive bonus plan, option awards and change of control arrangements. The following is a discussion of each element.

Base Salary

Since 2007, the compensation committee and the board of directors have developed our compensation policy with the view that our company and its stockholders would be best served if compensation policies focused on creating a team ethic among our executive officers. A central element of this policy is that a team ethic will be best supported if all executive officers received approximately the same salary. For 2008, Messrs. Smith and Jones were paid the same base salary of $275,600. Ms. Yow receives a base salary of $226,854 (paid in Singapore Dollars) which we believe was an equivalent salary taking into account the lower cost of living in Singapore where she is based. Mr. Jog received a slightly higher salary of $278,000 pursuant to an offer letter we entered into with him when he joined us in 2008, which salary amount was designed to attract Mr. Jog to us and provide him with a salary comparable to his salary at his former position. Mr. Worthington s base salary of $294,840 reflected the substantial additional responsibility he has as Chief Executive Officer as compared to the other executive officers.

In April 2009, the compensation committee reviewed 2009 base salaries in light of general market conditions in the San Francisco Bay Area life science industry and our financial condition. The compensation committee concluded that due to the depressed economic conditions locally and nationally and our constrained financial position that no increases in compensation were appropriate. However, given the ongoing competition for executive talent in the industry and region, the specialized skills and experiences required to manage life science companies and the overall strong performance of the executive team, the compensation committee decided not to reduce salaries. The compensation committee s assessment of general market conditions in the life science industry, and the life science industry in the San Francisco Bay Area in particular, was based on the experience of the committee members who were and are actively involved in venture capital investing in such industry and area. The compensation committee did not rely on any formal compensation survey data in making its assessment.

In January 2010, the compensation committee again reviewed base salaries for our executive officers using the same methodology used in 2009. The compensation committee concluded that economic conditions locally and nationally had stabilized and were improving but were not yet robust. The compensation committee also concluded that hiring in the life science industry in the San Francisco Bay Area had increased somewhat and that there was greater competition for executive talent. As our executive officers had forgone raises in 2009, the compensation committee felt that modest raises of between 2% and 4% were appropriate to keep our executive salaries competitive. Where each executive fell in this range was based on the extent to which the executive achieved his or her departmental goals in 2009. The compensation committee approved the following base salaries for 2010: Gajus Worthington, $303,644, an increase of 3%; Vikram Jog, $289,120, an increase of 4%; Bob Jones, 281,112, an increase of 2%; Bill Smith, $286,624, an increase of 4%; and Grace Yow, $234,467, an increase of 3%. However, because of our financial position and ongoing losses, the compensation committee determined that these salaries will not be implemented until a specified financing goal is achieved at which time the salary increases will be paid retroactive to the beginning of 2010. Completion of this offering and raising the amounts contemplated hereby will satisfy this financing goal and cause the new salary structure to be implemented and the deferred salary increases to be paid.

Incentive Bonus Plan

For 2009, the compensation committee and the board of directors established a bonus structure for all named executive officers that provided for performance bonuses of up to 35% of base salary for each officer. 80% of the performance bonus was payable based upon our reaching our corporate goals described above, and the remaining 20% was payable to each executive based on the attainment of his or her departmental goals

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described above. Payment of performance bonuses was allocated among corporate and departmental goals in this manner in recognition of our compensation philosophy in which the compensation committee sought to incentivize executive officers to look beyond their departmental goals and work with other executive officers to achieve our overall corporate goals. The entire bonus of 35% of salary was payable to an executive only if all of the corporate goals and all of his or her departmental goals were attained. If a particular corporate or department goal was only partially attained, then the compensation committee would determine in its discretion whether all, part, or none of the portion of the bonus tied to that goal would be awarded; provided that, no bonus was payable with respect to a goal where performance was less than 80% of the targeted level. The 80% requirement was set so that executives would receive a bonus only for high levels of performance. For departmental goals, each goal was treated as having equal weight, so an equal portion of the executive s bonus is tied to attaining each goal. The weighting of the corporate goals was not pre-determined as the compensation committee wished to retain the ability to adjust the bonus payments based on an analysis of how attainment or failure to attain each particular goal impacted us. The compensation committee also retained the discretion to change the bonus structure and increase or decrease the bonus payment amounts as it considered appropriate.

Achievement of Corporate Goals in 2009

In January 2010, the compensation committee reviewed our performance in 2009 and determined that three of our five corporate goals had been fully met and two had partially more met. Specifically, it concluded that:

(i) We had partially met our revenue goal. Our revenue was more than 80% of the targeted level but not equal to the target. The compensation committee determined in its discretion to award 40% of the bonus tied to achievement of this goal.

(ii) We had partially met our margin goal. Our margins were better than had been targeted, but this level was achieved only by including in revenue the unanticipated receipt of a license fee in the fourth quarter of 2009 which positively impacted our margins. The compensation committee determined in its discretion to award 94% of the bonus tied to achievement of this goal.

(iii) We had fully achieved our operating expense goal. Our operating expenses were below targeted levels.

(iv) We had fully achieved our financing goals. We raised less than the targeted amount of financing, but the compensation committee deemed the goal fully achieved because of the extremely difficult financing environment in 2009 and the favorable valuation which we achieved.

(v) We had fully achieved our customer leads goal. We generated more leads than were targeted.

In weighting these goals, the compensation committee decided that our revenue goal should be weighted at 60% and the other goals at 10% each, because it viewed achieving greater revenue as the most critical element of our long term success at this stage of our development. Applying the percentage achievement to the weighting of the goals, the compensation committee determined that our corporate goals had been 60% met which equated to a bonus equal to 17% of base salary for each executive officer for attainment of those goals.

Achievement of Department Goals in 2009

The compensation committee also considered the achievement of 2009 departmental performance goals in January 2010 and made the following determinations with respect to each of the executive officers:

Gajus Worthington, Chief Executive Officer. Mr. Worthington partially met his goal related to the attainment by each individual executive officer of their departmental goals as our executives met or partially met some but not all of their departmental goals. In addition, Mr. Worthington met the sales goal for the United States but not for Europe. The compensation committee equally weighted and averaged the attainment of each of the sales goals and each of the departmental goals and awarded Mr. Worthington 45% of the bonus associated with his attaining his departmental goals.

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Vikram Jog, Chief Financial Officer. Mr. Jog fully met his departmental goals as the compensation committee deemed that he raised the targeted amount of capital, there were no material weaknesses or deficiencies in our quarterly reviews or audits, our books were accurately closed in a timely manner each quarter and our 2008 audit was completed. Therefore, the compensation committee awarded Mr. Jog 100% of the bonus associated with his attaining his departmental goals.

William Smith, Vice President Legal Affairs and General Counsel. Mr. Smith fully met four of his five goals as he maintained the intellectual property position of our BioMark business, reduced legal expenditures by the targeted amount, raised the targeted amount of capital, and achieved targeted cost reductions through a contract renegotiation. However, his sales goal was only 50% met because he did not achieve the targeted unit volume of sales. The compensation committee equally weighted each goal and awarded Mr. Smith 90% of the bonus associated with his attaining of his departmental goals.

Robert Jones, Executive Vice President, Research and Development. Mr. Jones met only one of his four goals with respect to product launches as only one product was launched when targeted. In addition, Mr. Jones did not meet his goals with respect to the cost of goods. Therefore, the compensation committee award Mr. Jones 20% of the bonus associated with his attaining his departmental goals.

Grace Yow, Vice President, Worldwide Manufacturing. Ms. Yow met two of her four goals for product launches; though those two products launched later than planned, the compensation committee deemed that the manufacturing department was not responsible for the delay. Ms. Yow partially met her goals for manufacturing yields and costs of goods as the specified targets were met in some, but not all, quarters. The compensation committee deemed that each of these goals were 50% attained. The compensation committee equally weighted each goal and awarded Ms. Yow 60% of the bonus associated with her attaining her departmental goals.

As with the executive salary increases described above, the compensation committee determined that payment of bonuses to executives for their 2009 performance would be deferred until the same financing goal was achieved. The amounts contemplated to be raised in this offering would satisfy that milestone and would trigger payment of these bonuses.

We intend for the bonus plan to provide a significant portion of an executive s potential compensation. It is designed to help ensure that executives are focused on our near-term performance and on working together to achieve key corporate objectives. We expect that corporate and departmental goals will be reviewed each year and adjusted to reflect changes in our stage of development, competitive position and corporate objectives. As discussed above, the compensation committee and the board of directors retain the discretion to award compensation absent attainment of a relevant performance goal and to reduce the size of an award following attainment of a relevant performance goal, and exercised that discretion in 2009. We believe that maintaining this flexibility is helpful in ensuring that executives are appropriately compensated for their performance and are neither rewarded nor penalized as a result of unusual circumstances that were not foreseeable at the time the goals were developed.

The compensation committee has concluded that the 2009 bonus plan was effective and, therefore, our 2010 bonus plan has the same structure and bonus percentages with updated corporate and departmental goals.

Option Awards

We grant options to new executives upon the commencement of their employment and on an annual basis consider making additional grants to existing executives based on our overall corporate performance, individual performance and the executives existing option grants and equity holdings. In addition, on an annual basis we make option grants to our executive officers that have provisions for accelerated vesting if corporate or departmental goals are achieved. We believe that option awards are an effective means of aligning the interests of executives and stockholders, rewarding executives for our achieving success over the long term and providing executives an incentive to remain with us.

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In 2009, the compensation committee recommended and the Board approved two performance based option grants to each of our executive officers one based on attainment of our 2009 corporate goals and one based on attainment of the executive s 2009 departmental goals. Each executive was awarded an option to purchase 10,000 shares related to the achievement of departmental goals and an option to purchase 10,000 shares related to attainment of corporate goals. The compensation committee s selection of an aggregate grant of 20,000 shares was based on the committee s determination that such number of shares would provide meaningful compensation to our executive officers and meaningful incentive to achieve the corporate and departmental goals. The committee did not rely on compensation surveys or other third party sources in arriving at this number.

For the first option grant, 25% of the shares subject to the grant would vest on April 1, 2010 and 1/48th of the shares would vest each month thereafter; provided, that a percentage of the option equal to the percentage of corporate goals that are achieved would become fully vested as of December 31, 2009. Thus, for 2009, because the committee determined that 60% of our corporate goals had been achieved, 60% of the performance options related to the attainment of corporate goals vested effective as of December 31, 2009. 25% of the remaining 40% of such performance options vested on April 1, 2010 and 1/48th of the remaining unvested shares will vest each month thereafter.

For the second option grant, all of the shares subject to the option will vest on December 31, 2012, provided that a percentage of the option equal to the percentage of the executive s departmental goals that are achieved would become fully vested effective as of December 31, 2009. Thus, for each executive officer all or a portion of their option became vested on December 31, 2009 based on their attainment of their departmental goals.

We believe that these performance related option grants provide an additional incentive for executives to achieve corporate and departmental goals for each year while also providing them a form of compensation that is appropriately linked to our long term success.

In November 2009, the board granted to Mr. Worthington an option to purchase 25,975 shares vesting over four years. The number of shares subject to this grant is equal to the number of shares Mr. Worthington surrendered in 2008 in connection with the repayment of a loan we had made to him. The compensation committee made this grant in order to give Mr. Worthington the opportunity restore his original equity position by providing continuing services to us. In addition, in November 2009, the compensation committee granted Mr. Worthington two options to purchase 14,285 shares. These options were performance related grants which the compensation committee had intended to grant to Mr. Worthington in 2008 at the same time it made similar grants to all other executive officers. As a result of an administrative error, the grants were not made in 2008, so the compensation committee made these grants to correct that oversight.

Our compensation committee has concluded that performance related options grants are an effective form of equity compensation and has determined that it will make grants of the same amount and with the same structure tied to achievement of our 2010 corporate and departmental goals. We expect that these grants will be made in December 2010.

Employment and Severance Agreements

In February 2008, we entered into Employment and Severance Agreements with each of our named executive officers that provide for specified payments and benefits if the officer s employment is terminated without cause, or if the officer s employment is terminated without cause or for good reason within 12 months following a change of control. The terms of these agreements are described under Potential Payments upon Termination or Change of Control. We adopted these arrangements because we recognize that we will from time to time consider the possibility of an acquisition by another company or other change of control transaction and that such consideration can be a distraction to our executive officers and can cause such officers to consider alternative employment opportunities. Accordingly, our board of directors concluded that it is in the best interests of our company and its stockholders to provide executives with certain severance benefits upon termination of employment without cause or for good reason following a change of control. Our board determined to provide

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such executives with certain severance benefits upon their termination of employment without cause outside of the change of control context in order to provide executives with enhanced financial security and incentive to remain with our company. In addition, we believe that providing for acceleration of options if an officer is terminated following a change of control transaction aligns the executive officer s interest more closely with those of other stockholders when evaluating the transaction rather than putting the officer at risk of losing the benefits of those equity incentives.

In determining the amount of cash payments, benefits coverage and acceleration of vesting to be provided to officers upon termination prior to a change of control or within 12 months following a change of control, our Board considered the following factors:

- the expected time required for an officer to find comparable employment following a termination event;
- feedback received from potential candidates for officer positions at our company as to the level of severance payments and benefits they would require to leave other employment and join our company;
- in the context of a change of control, the amount of vesting acceleration that would align the officer s interests more closely with the interests of stockholders when considering a potential change of control transaction; and
- the period of time following a change of control during which management positions are evaluated and subject to a heightened risk of elimination.

In addition, all outstanding options granted to our employees will become fully vested upon a change of control if the options are not assumed by the acquiring company.

Other Benefits

Executive officers are eligible to participate in all of our employee benefit plans, such as medical, dental, vision, group life, disability, accidental death and dismemberment insurance, and our 401(k) plan, in each case on the same basis as other employees, subject to applicable law. We also provide vacation and other paid holidays to all employees, including our executive officers, which we believe are comparable to those provided at peer companies.

During 2009, we offered all employees of the company the opportunity to exchange their outstanding options with exercise prices above the then fair value of our common stock, for new options for the same number of shares with an exercise price equal to the then fair value of our common stock and a lengthened vesting schedule. Our executive officers were entitled to participate in this program and all did so.

Accounting and Tax Considerations

Section 162(m) of the Internal Revenue Code of 1986, as amended, or the Code, places a limit of $1,000,000 on the amount of compensation that we may deduct as a business expense in any year with respect to our Chief Executive Officer and certain of our highly paid executive officers. We can, however, preserve the deductibility of certain performance-based compensation in excess of $1,000,000 if the conditions of Code Section 162(m) are met. Under applicable tax guidance for newly-public companies, the deduction limitation generally will not apply to compensation paid pursuant to any plan or agreement that existed before the company became publicly held. In addition, compensation provided by newly-public companies through the first stockholder meeting to elect directors after the close of the third calendar year following the year in which the initial public offering occurs, or earlier upon the occurrence of certain events (e.g., a material modification of the plan or agreement under which the compensation is granted), will not be included for purposes of the Code Section 162(m) limit provided the arrangement is adequately described in this prospectus. Accordingly, we believe that deductibility of all income recognized by executives pursuant to equity compensation granted by us prior to this offering, as well as any equity compensation granted by us under the 2011 Equity Incentive Plan

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following this offering through the expiration of the reliance period, will not be limited by Code Section 162(m). While the compensation committee cannot predict how the deductibility limit may impact our compensation program in future years, the compensation committee intends to maintain an approach to executive compensation that strongly links pay to performance. While the compensation committee has not adopted a formal policy regarding tax deductibility of compensation paid to our executive officers, the compensation committee intends to consider tax deductibility under Section 162(m) as a factor in compensation decisions.

Code Section 409A imposes additional taxes on certain non-qualified deferred compensation arrangements that do not comply with its requirements. These requirements regulate an individual s election to defer compensation and the individual s selection of the timing and form of distribution of the deferred compensation. Code Section 409A generally also provides that distributions of deferred compensation only can be made on or following the occurrence of certain events (i.e., the individual s separation from service, a predetermined date, a change in control, or the individual s death or disability). For certain executives, Code Section 409A requires that such individual s distribution commence no earlier than six (6) months after such officer s separation from service. We have and will continue to endeavor to structure our compensation arrangements to comply with Code Section 409A so as to avoid the adverse tax consequences associated therewith.

Summary Compensation Table

The following table presents information concerning the total compensation of our Chief Executive Officer, Chief Financial Officer and our three other most highly compensated officers during the last fiscal year who were serving as executive officers at the end of 2009 (the Named Executive Officers) for services rendered to us in all capacities in 2009:

Summary Compensation Table

Name and Principal Position	Year	Salary ($)	Option Awards ($)(1)	Non-Equity Incentive Plan Compensation ($)(2)	Total ($)
Gajus V. Worthington President and Chief Executive Officer	2009	294,840	203,948	59,402	558,190
Vikram Jog Chief Financial Officer	2009	278,000	246,340	66,720	591,060
Robert C. Jones Executive Vice President Research and Development	2009	275,600	133,224	51,675	460,499
William M. Smith Vice President, Legal Affairs, and General Counsel	2009	275,600	190,875	64,215	530,590
Mai Chan (Grace) Yow(3) Vice President, Worldwide Manufacturing and Managing Director of Fluidigm Singapore	2009	226,854	191,688	44,928	463,470

(1) Amounts represent the aggregate fair market value of options granted in 2009 to the named executive officer calculated in accordance with FASB ASC 718 without regard to estimated forfeitures. For options granted in connection with our repricing, only the incremental value of the grant is included. See Note 10 of the notes to our audited consolidated financial statements for a discussion of assumptions made in determining the grant date fair value and

compensation expense of our stock options.

(2) The amounts in this column represent total performance-based bonuses earned for service rendered during fiscal 2009 under our incentive bonus plan. Payment of these bonuses has been deferred until specified financing goals are achieved. For a description of our 2009 bonus plan, please see Incentive Bonus Plan under Compensation Discussion and Analysis above for additional information regarding our fiscal 2007 cash bonuses.

(3) Ms. Yow s salary is determined and paid in Singapore dollars, but, for purposes of this table, the amount was converted to U.S. Dollars using the exchange rate as of December 31, 2009. The bonus amount was determined in U.S. Dollars but will be paid in Singapore dollars based on the exchange rate at the time of payment.

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Grants of Plan-Based Awards

The following table presents information concerning grants of plan-based awards to each of the Named Executive Officers during 2009.

Grants of Plan-Based Awards

Name	Grant Date	Estimated Payouts Under Non-Equity Incentive Plan Awards Target ($)	Estimated Payouts Under Equity Incentive Plan Awards Target (#)	All Option Awards: Number of Securities Underlying Options (#)	Exercise or Base Price of Option Awards ($/Sh)(1)	Grant Date Fair Value of Stock and Option Awards($)(2)
Gajus V. Worthington	11/17/2009		10,000(3)		2.36	13,000
	11/17/2009		10,000(4)		2.36	
	11/17/2009				2.36	
	11/17/2009				2.36	12,700
	11/17/2009				2.36	
	12/23/2009				2.57	17,856
	12/23/2009				2.57	
	12/23/2009				2.57	17,856
						35,066
				14,285(5)		54,471
				14,285(5)		
				25,975(23)		27,600
				44,285(6)		
				20,000(7)		
				19,999(8)		25,399
Vikram Jog	11/17/2009		10,000(3)		2.36	12,500
	11/17/2009		10,000(4)		2.36	
	12/23/2009				2.57	
	12/23/2009				2.57	12,700
	12/23/2009				2.57	
						184,285
				142,857(9)		18,285
				14,285(10)		
				14,285(11)		18,570
Robert C. Jones	11/17/2009		10,000(3)		2.36	13,300
	11/17/2009		10,000(4)		2.36	
	12/23/2009				2.57	
	12/23/2009				2.57	12,700
	12/23/2009				2.57	
	12/23/2009				2.57	28,113
	12/23/2009				2.57	
						18,428
						18,570
				22,856(12)		
				14,285(13)		14,513
				14,285(14)		
				11,428(15)		
				20,000(7)		27,600
William M. Smith	11/17/2009		10,000(3)	28,571(16)	2.36	12,500
	11/17/2009		10,000(4)	21,008(17)	2.36	

	12/23/2009		12,706(18)	2.57	12,700
	12/23/2009		20,000(7)	2.57	
	12/23/2009		19,999(8)	2.57	33,999
	12/23/2009		14,285(13)	2.57	
	12/23/2009		14,285(14)	2.57	
	12/23/2009			2.57	26,050
	12/23/2009			2.57	
					15,628
					27,600
					25,399
					18,428
					18,571
Mai Chan (Grace) Yow	11/17/2009	10,000(3)		2.36	12,800
	11/17/2009	10,000(4)		2.36	
	12/23/2009			2.57	
	12/23/2009			2.57	12,700
	12/23/2009			2.57	
	12/23/2009			2.57	17,142
	12/23/2009			2.57	
	12/23/2009			2.57	69,934
					27,600
			14,285(19)		18,428
			56,857(20)		
			20,000(21)		18,570
			14,285(13)		
			14,285(14)		
			11,428(22)		14,514

(1) Our shares of common stock were not publicly traded during the 2009. The exercise price of all options was the fair value of a share of our common stock on the date of grant as determined in good faith by our board of directors.

(2) Amounts represent the grant date fair value of the stock options, calculated in accordance with FASB ASC Topic 718 without regard to estimated forfeitures, or, in the case of grants made as part of our repricing, amounts represent the incremental fair value of the stock options granted calculated in accordance with FASB ASC Topic 718. See note 10 of the notes to our audited consolidated financial statements for a discussion of assumptions made in determining the grant date fair value or incremental fair value of our stock options.

(3) These options were granted on November 17, 2009 and are performance related options tied to achievement of 2009 departmental goals. Effective as of December 31, 2009, 4,500 shares, 10,000 shares, 9,000 shares, 2,000 shares and 6,000 shares subject to these grants vested for Mr. Worthington, Mr. Jog, Mr. Smith, Mr. Jones and Ms. Yow, respectively. The remaining unvested shares subject to these grants will vest on December 31, 2012.

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(4) These options were granted on November 17, 2009 and are performance related grants tied to achievement of 2009 corporate goals. 6,100 shares vested effective as of December 31, 2009. 975 of the shares vested on April 1, 2010 and 81 shares vest at the end of each month thereafter.

(5) These options were granted on November 17, 2009. 11,071 shares subject to the options were vested as of the date of grant and 119 shares vest each month on after December 1, 2009.

(6) This option was originally granted on May 8, 2007 and was re-granted on December 23, 2009 as part of our option re-pricing. 21,516 of the shares subject to this grant were vested as of re-grant date, 20,000 shares vest as of February 1, 2010, and 923 shares vest each month thereafter.

(7) These options were originally granted on April 23, 2008 and were re-granted on December 23, 2009 as part of our option re-pricing. None of the shares subject to the grants were vested as of re-grant date, 18,750 shares vest as of December 31, 2011, and 417 shares vest each month thereafter.

(8) This option was originally granted on April 23, 2008 and was re-granted on December 23, 2009 as part of our option re-pricing. 18,748 of the shares subject to the grant were vested as of re-grant date, and 417 shares vest each month on and after January 22, 2010.

(9) This option was originally granted on February 7, 2008 and was re-granted on December 23, 2009 as part of our option re-pricing. 56,547 of the shares subject to the grants were vested as of re-grant date, and 2,977 shares vest each month on and after January 7, 2010.

(10) This option was originally granted on February 7, 2008 and was re-granted on December 23, 2009 as part of our option re-pricing. 9,022 of the shares subject to the grants were vested as of re-grant date, 168 shares vest each month on and after January 1, 2010 until March 1, 1012, and 297 shares will vest each month on and after March 1, 2012.

(11) This option was originally granted on February 7, 2008 and was re-granted on December 23, 2009 as part of our option re-pricing. 9,106 of the shares subject to this grant were vested as of re-grant date, 4,286 shares will vest on December 31, 2011 and 297 shares will vest each month thereafter.

(12) This option was originally granted on May 8, 2007 and was re-granted on December 23, 2009 as part of our option re-pricing. 1,428 shares subject to this grant were vested as of the re-grant date, 19,999 shares vest as of February 1, 2010, and 477 shares vest each month thereafter.

(13) This option was originally granted on April 23, 2008 and was re-granted on December 23, 2009 as part of our option re-pricing. 10,535 of the shares subject to the grant were vested as of re-grant date, 2,857 shares vest as of December 31, 2011, and 298 shares will vest each month thereafter.

(14) These options were originally granted on April 23, 2008 and were re-granted on December 23, 2009 as part of our option re-pricing. 9,022 of the shares subject to the grants were vested as of re-grant date, 168 shares vest each month on and after January 1, 2010 until March 1, 2012, and 297 shares vest each month on and after March 1, 2012.

(15) This option was originally granted on April 23, 2008 and was re-granted on December 23, 2009 as part of our option re-pricing. 10,713 of the shares subject to the grant were vested as of re-grant date, and 236 shares vest each month on and after January 22, 2010.

(16) This option was originally granted on August 15, 2006 and was re-granted on December 23, 2009 as part of our option re-pricing. 25,356 of the shares subject to the grant were vested as of re-grant date, 714 shares vest each month on and after January 1, 2010 until March 1, 2010, and 595 shares vest each month on and after March 1, 2010.

(17) This option was originally granted on May 8, 2007 and was re-granted on December 23, 2009 as part of our option re-pricing. None of the shares subject to the grant were vested as of re-grant date, 19,625 shares vest February 1, 2010, and 438 shares vest each month thereafter.

(18) This option was originally granted on May 8, 2007 and was re-granted on December 23, 2009 as part of our option re-pricing. 11,911 of the shares subject to the grant were vested as of re-grant date, and 265 shares vest each month on and after January 22, 2010.

(19) This option was originally granted on September 27, 2006 and was re-granted on December 23, 2009 as part of our option re-pricing. 9,820 of the shares subject to the grant were vested as of re grant date, 358 shares vest each month on and after December 27, 2009 until October 27, 2010, and 297 shares vest each month on and after October 27, 2010.

(20) This option was originally granted on May 8, 2007 and was re-granted on December 23, 2009 as part of our option re-pricing. 36,446 of the shares subject to the grants were vested as of re-grant date, 16,858 shares vest as of February 1, 2010 and 1,185 shares vest each month thereafter.

(21) This option was originally granted on April 23, 2008 and was re-granted on December 23, 2009 as part of our option re-pricing. None of the shares subject to the grant were vested as of re-grant date, 18,750 shares vest on January 31, 2012, and 417 shares vest each month thereafter.

(22) This option was originally granted on April 23, 2008 and was re-granted on December 23, 2009 as part of our option re-pricing. 10,713 of the shares subject to the grant were vested as of re-grant date and 238 shares vest each month on and after January 22, 2010.

(23) 25% of the shares subject to this option vest on the first anniversary of the grant date and 1/48th of the shares subject to the option vest every month thereafter.

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Outstanding Equity Awards at Fiscal Year-End

The following table presents certain information concerning equity awards held by the Named Executive Officers at December 31, 2009.

Outstanding Equity Awards at Fiscal Year-End

	Option Awards			
Name	**Number of Securities Underlying Unexercised Options (#) Exercisable(1)**	**Number of Securities Underlying Unexercised Options (#) Unexercisable**	**Option Exercise Price ($)**	**Option Expiration Date**
Gajus V. Worthington	57,142(2)	0	1.96	01/17/2015
	44,285(3)	0	2.57	05/08/2017
	14,285(5)	0	2.36	11/17/2019
	14,285(5)	0	2.36	11/17/2019
	20,000(15)	0	2.57	4/23/2018
	19,999(23)	0	2.57	4/23/2018
	4,500(6)	5,500(4)	2.36	11/17/2019
	6,100(7)	3,900(4)	2.36	11/17/2019
	0(30)	25,975(4)	2.36	11/17/2019
Vikram Jog	142,857(8)	0	2.57	2/6/2018
	14,285(9)	0	2.57	2/6/2018
	14,285(10)	0	2.57	2/6/2018
	10,000(6)	0	2.36	11/17/2009
	6,100(7)	3,900(4)	2.36	11/17/2009
Robert C. Jones	114,285(11)	0	1.96	08/03/2015
	22,856(12)	0	2.57	05/07/2017
	14,285(13)	0	2.57	4/23/2018
	14,285(24)	0	2.57	4/23/2018
	11,428(14)	0	2.57	4/23/2018
	20,000(15)	0	2.57	4/23/2018
	2,000(6)	8,000(4)	2.36	11/17/2019
	6,000(7)	4,000(4)	2.36	11/17/2019
William M. Smith	11,142(16)	0	1.05	12/04/2011
	50,000(17)	0	1.05	7/15/2013
	12,857(18)	0	1.40	4/18/2014
	28,571(19)	0	1.96	01/17/2015
	28,571(20)	0	2.57	08/14/2016
	21,008(21)	0	2.57	05/07/2017
	12,706(22)	0	2.57	05/07/2017
	20,000(15)	0	2.57	4/23/2018
	19,999(23)	0	2.57	4/23/2018
	14,285(13)	0	2.57	4/23/2018
	14,285(24)	0	2.57	4/23/2018
	9,000(6)	1,000(4)	2.36	11/17/2019
	6,100(7)	3,900(4)	2.36	11/17/2019