ARCA biopharma, Inc.
Form DEF 14A
April 07, 2010

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 14A

(Rule 14a-101)

INFORMATION REQUIRED IN PROXY STATEMENT

SCHEDULE 14A INFORMATION

Proxy Statement Pursuant to Section 14(a) of the

Securities Exchange Act of 1934

Filed by the Registrant x

Filed by a Party other than the Registrant ¨

Check the appropriate box:

¨ Preliminary Proxy Statement
x Definitive Proxy Statement
¨ Definitive Additional Materials
¨ Soliciting Material Pursuant to § 240.14a-12

¨ **Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**

ARCA BIOPHARMA, INC.

(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement if Other Than the Registrant)

Payment of Filing Fee (Check the appropriate box)

x No fee required.

¨ Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

1. Title of each class of securities to which transaction applies:

2. Aggregate number of securities to which transaction applies:

3. Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (Set forth the amount on which the filing fee is calculated and state how it was determined):

4. Proposed maximum aggregate value of transaction:

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(1) Amount Previously Paid:

(2) Form, Schedule or Registration Statement No.:

(3) Filing Party:

(4) Date Filed:

ARCA BIOPHARMA, INC.

8001 Arista Place, Suite 200

Broomfield, Colorado 80021

April 7, 2010

Dear Stockholders of ARCA biopharma, Inc.:

You are cordially invited to attend the Annual Meeting of Stockholders of ARCA biopharma, Inc., a Delaware corporation (the Company or ARCA). The meeting will be held on Friday, May 21, 2010 at 9:00 a.m. local time at Renaissance Suites, 500 Flatiron Boulevard, Broomfield, CO 80021.

The matters scheduled to be considered at the meeting are (1) to elect the Board s nominees, Dr. Linda Grais and Dr. John L. Zabriskie, to the Board of Directors to hold office until the 2013 Annual Meeting of Stockholders, (2) to ratify the selection by the Board of Directors of KPMG LLP as independent registered public accounting firm of the Company for its fiscal year ending December 31, 2010 and (3) to conduct any other business properly brought before the meeting. These items of business are more fully described in this proxy statement that you are encouraged to read in its entirety.

In accordance with the Securities and Exchange Commission (SEC) rule (Notice and Access Rule) that allows companies to furnish their proxy materials (including the form of proxy, this proxy statement and our Annual Report on Form 10-K for the fiscal year ended December 31, 2009, filed with the SEC on March 4, 2010) over the Internet, we sent a Notice of Internet Availability of Proxy Materials (Notice) on or about April 7, 2010 to our stockholders of record as of March 26, 2010. We also provided access to our proxy materials over the Internet beginning on that date. As a result of the Notice and Access Rule, all stockholders receiving the Notice have the ability to access the proxy materials over the Internet and request to receive a paper copy of the proxy materials by mail. Instructions on how to access the proxy materials over the Internet or to request a paper copy may be found on the Notice. In addition, the Notice contains instructions on how stockholders may request to receive proxy materials electronically by e-mail.

All stockholders are cordially invited to attend the Annual Meeting in person. Whether or not you expect to attend the Annual Meeting, please vote, as instructed in the Notice of Internet Availability of Proxy Materials, via the Internet or the telephone, as promptly as possible in order to ensure your representation at the Annual Meeting. Alternatively, you may follow the procedures outlined in the Notice of Internet Availability of Proxy Materials to request a paper proxy card to submit your vote by mail. Even if you have voted by proxy, you may still vote in person if you attend the Annual Meeting. Please note, however, that if your shares are held of record by a broker, bank or other agent and you wish to vote at the Annual Meeting, you must obtain a proxy issued in your name from that record holder.

Sincerely,

CHRISTOPHER OZEROFF

Secretary, Senior Vice President and General Counsel

ARCA BIOPHARMA, INC.

8001 Arista Place, Suite 200

Broomfield, Colorado 80021

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

TO BE HELD ON MAY 21, 2010

Notice is hereby given that the Annual Meeting of Stockholders of (the Annual Meeting) ARCA biopharma, Inc., a Delaware corporation (the Company or ARCA) will be held on Friday, May 21, 2010 at 9:00 a.m. local time at Renaissance Suites, 500 Flatiron Boulevard, Broomfield, CO 80021 for the following purposes:

1. To elect the Board s nominees, Dr. Linda Grais and Dr. John L. Zabriskie, to the Board of Directors to hold office until the 2013 Annual Meeting of Stockholders.

2. To ratify the selection by the Board of Directors of KPMG LLP as independent registered public accounting firm of the Company for its fiscal year ending December 31, 2010.

3. To conduct any other business properly brought before the meeting.

These items of business are more fully described in the proxy statement accompanying this Notice.

The record date for the Annual Meeting is March 26, 2010. Only stockholders of record at the close of business on that date may vote at the meeting or any adjournment thereof.

By Order of the Board of Directors:

CHRISTOPHER OZEROFF

Secretary, Senior Vice President and General Counsel

BROOMFIELD, CO

APRIL 7, 2010

IMPORTANT NOTICE REGARDING AVAILABILITY OF PROXY MATERIALS FOR THE

ANNUAL MEETING OF STOCKHOLDERS TO BE HELD ON MAY 21, 2010:

This proxy statement, the form of proxy and ARCA s annual report on Form 10-K for the year ended December 31, 2009 (2009 Annual Report) are being mailed to stockholders who have requested hard copies on or after April 7, 2010.

All stockholders may view and print ARCA s proxy statement and the 2009 Annual Report, which are available at www.arcabiopharma.com.

ARCA BIOPHARMA, INC.

8001 Arista Place, Suite 200

Broomfield, Colorado 80021

PROXY STATEMENT

FOR THE 2010 ANNUAL MEETING OF STOCKHOLDERS

MAY 21, 2010

This proxy statement (this Proxy Statement) is being furnished to holders of ARCA biopharma, Inc. (sometimes referred to as the Company, ARCA, we, us, and our) common stock, par value $0.001 per share (the Common Stock). Proxies are being solicited on behalf of the Board Directors of ARCA (the Board of Directors) to be used at the Annual Meeting of Stockholders (the Annual Meeting) to be held on Friday, May 21, 2010 at 9:00 a.m. local time at Renaissance Suites, 500 Flatiron Boulevard, Broomfield, CO 80021 and at any postponement or adjournment thereof, for the purposes set forth in the Notice of Annual Meeting of Stockholders.

ARCA is using the Securities and Exchange Commission (the SEC) rule that allows companies to furnish their proxy materials over the Internet. As a result, we mailed to our stockholders a Notice of Internet Availability of Proxy Materials (the Notice) instead of a paper copy of the proxy materials (including the form of proxy, this Proxy Statement and our Annual Report on Form 10-K for the fiscal year ended December 31, 2009, filed with the SEC on March 4, 2010 (the 2009 Annual Report), collectively, the Proxy Materials) on or about April 7, 2010. We also provided access to our Proxy Materials over the Internet beginning on that date. By furnishing the Notice to our stockholders of record, you ***will not*** receive a printed copy of the Proxy Materials in the mail. Instead, the Notice instructs you on how to access and review all of the important information contained in the Proxy Statement and Annual Report electronically or to receive a printed version in the mail. The Notice also instructs you on how you may submit your proxy over the Internet, by toll-free number or in person at the Annual Meeting. Subsequent to receiving the Notice, all stockholders have the ability to access the Proxy Materials over the Internet and request to receive a paper copy of the Proxy Materials by mail. Instructions on how to access the Proxy Materials over the Internet or to request a paper copy may be found on the Notice. In addition, the Notice contains instructions on how stockholders may request to receive Proxy Materials electronically by e-mail.

All stockholders may view and print ARCA s proxy statement and the 2009 Annual Report, which are available at www.arcabiopharma.com.

QUESTIONS AND ANSWERS ABOUT THESE PROXY MATERIALS AND VOTING

Why did I receive a notice regarding the availability of the Proxy Materials on the Internet?

As described above, pursuant to rules adopted by the SEC, we have elected to provide access to the Proxy Materials over the Internet. Accordingly, on or about April 7, 2010, we sent the Notice to ARCA s stockholders of record. The Board of Directors is soliciting your proxy to vote at the Annual Meeting. All stockholders will have the ability to access the Proxy Materials on the website referred to in the Notice or request to receive a printed or electronic set of the Proxy Materials. Instructions on how to access the Proxy Materials over the Internet or to request a printed copy may be found in the Notice.

How do I attend the Annual Meeting?

The meeting will be held on Friday, May 21, 2010 at 9:00 a.m. local time at Renaissance Suites, 500 Flatiron Boulevard, Broomfield, CO 80021. Directions to the annual meeting may be found at www.arcabiopharma.com. Information on how to vote in person at the Annual Meeting is discussed below.

Who can vote at the Annual Meeting?

Only stockholders of record at the close of business on March 26, 2010 will be entitled to vote at the Annual Meeting. On this record date, there were 7,620,448 shares of common stock outstanding and entitled to vote.

Stockholder of Record: Shares Registered in Your Name

If on March 26, 2010 your shares were registered directly in your name with ARCA s transfer agent, Computershare Trust Company N.A., then you are a stockholder of record. As a stockholder of record, you may vote in person at the meeting or vote by proxy. Whether or not you plan to attend the meeting, we urge you to vote by proxy over the telephone or on the Internet as instructed below or return the proxy card we may mail to you to ensure your vote is counted.

Beneficial Owner: Shares Registered in the Name of a Broker or Bank

If, on March 26, 2010, your shares were held, not in your name, but rather in an account at a brokerage firm, bank, dealer, or other similar organization, then you are the beneficial owner of shares held in street name and the Notice is being forwarded to you by that organization. The organization holding your account is considered to be the stockholder of record for purposes of voting at the Annual Meeting. As a beneficial owner, you have the right to direct your broker or other agent regarding how to vote the shares in your account. You are also invited to attend the Annual Meeting. However, since you are not the stockholder of record, you may not vote your shares in person at the meeting unless you request and obtain a valid proxy from your broker or other agent.

What am I voting on?

There are two matters scheduled for a vote:

Election of two directors; and

Ratification of selection by the Board of Directors of KPMG LLP as independent registered public accounting firm of the Company for its fiscal year ending December 31, 2010.

What if another matter is properly brought before the meeting?

The Board of Directors knows of no other matters that will be presented for consideration at the Annual Meeting. If any other matters are properly brought before the meeting, it is the intention of the persons named in the accompanying proxy to vote on those matters in accordance with their best judgment.

How do I vote?

You may either vote For all the nominees to the Board of Directors or you may Withhold your vote for any nominee you specify. For each of the other matters to be voted on, you may vote For or Against or abstain from voting. The procedures for voting are fairly simple:

Stockholder of Record: Shares Registered in Your Name

If you are a stockholder of record, you may vote in person at the Annual Meeting, vote by proxy over the telephone, vote by proxy through the Internet or vote by proxy using a proxy card that you may request or that we may elect to deliver at a later time. Whether or not you plan to attend the meeting, we urge you to vote by proxy to ensure your vote is counted. You may still attend the meeting and vote in person even if you have already voted by proxy.

To vote in person, come to the Annual Meeting and we will give you a ballot when you arrive.

To vote using the proxy card, simply complete, sign and date the proxy card that may be delivered and return it promptly in the envelope provided. If you return your signed proxy card to us before the Annual Meeting, we will vote your shares as you direct.

To vote over the telephone, dial toll-free **1-800-652-VOTE (8683)** using a touch-tone phone and follow the recorded instructions. You will be asked to provide the company number and control number from the Notice. Your vote must be received by 11:59 p.m., Mountain Time on May 20, 2010 to be counted.

To vote through the Internet, go to http://www.envisionreports.com/abio to complete an electronic proxy card. You will be asked to provide the company number and control number from the Notice. Your vote must be received by 11:59 p.m. Mountain Time on May 20, 2010 to be counted.

Beneficial Owner: Shares Registered in the Name of Broker or Bank

If you are a beneficial owner of shares registered in the name of your broker, bank, or other agent, you should have received a Notice containing voting instructions from that organization rather than from ARCA. Simply follow the voting instructions in the Notice to ensure that your vote is counted. To vote in person at the Annual Meeting, you must obtain a valid proxy from your broker, bank, or other agent. Follow the instructions from your broker or bank included with these proxy materials, or contact your broker or bank to request a proxy form.

We provide internet proxy voting to allow you to vote your shares online, with procedures designed to ensure the authenticity and correctness of your proxy vote instructions. However, please be aware that you must bear any costs associated with your access to the Internet, such as usage charges from internet access providers and telephone companies.

How many votes do I have?

On each matter to be voted upon, you have one vote for each share of common stock you own as of March 26, 2010.

What if I return a proxy card or otherwise vote but do not make specific choices?

If you return a signed and dated proxy card or otherwise vote without marking voting selections, your shares will be voted, as applicable, For the election of both nominees for director and For the ratification of KMPG as the Company s independent auditor for the fiscal year 2010. If any other matter is properly presented at the meeting, your proxy holder (one of the individuals named on your proxy card) will vote your shares using his or her best judgment.

Who is paying for this proxy solicitation?

We will pay for the entire cost of soliciting proxies. In addition to these proxy materials, the directors and employees may also solicit proxies in person, by telephone, or by other means of communication. Directors and employees will not be paid any additional compensation for soliciting proxies. We may also reimburse brokerage firms, banks and other agents for the cost of forwarding proxy materials to beneficial owners.

What does it mean if I receive more than one Notice?

If you receive more than one Notice, your shares may be registered in more than one name or in different accounts. Please follow the voting instructions on the Notices to ensure that all of your shares are voted.

Can I change my vote after submitting my proxy?

Yes. You can revoke your proxy at any time before the final vote at the meeting. If you are the record holder of your shares, you may revoke your proxy in any one of the following ways:

You may submit another properly completed proxy card with a later date.

You may grant a subsequent proxy by telephone or through the Internet.

You may send a timely written notice that you are revoking your proxy to ARCA s Secretary at 8001 Arista Place, Suite 200, Broomfield, CO 80021.

You may attend the Annual Meeting and vote in person. Simply attending the meeting will not, by itself, revoke your proxy.

Your most current proxy card or telephone or the internet proxy is the one that is counted.

If your shares are held by your broker or bank as a nominee or agent, you should follow the instructions provided by your broker or bank.

When are stockholder proposals due for next year s annual meeting?

To be considered for inclusion in next year s proxy materials, your proposal must be submitted in writing by December 8, 2010, to ARCA s Secretary at 8001 Arista Place, Suite 200, Broomfield, CO 80021. If you wish to submit a proposal that is not to be included in next year s proxy materials or nominate a director, you must do so by no earlier than February 20, 2011 and no later than March 22, 2011. You are also advised to review the Company s Bylaws, which contain additional requirements about advance notice of stockholder proposals and director nominations.

How are votes counted?

Votes will be counted by the inspector of election appointed for the meeting, who will separately count For and Withhold and, with respect to proposals other than the election of directors, Against votes, abstentions and broker non-votes. Abstentions will be counted towards the vote total for each proposal, and will have the same effect as Against votes. Broker non-votes have no effect and will not be counted towards the vote total for any proposal.

What are broker non-votes ?

Broker non-votes occur when a beneficial owner of shares held in street name does not give instructions to the broker or nominee holding the shares as to how to vote on matters deemed non-routine. Generally, if shares are held in street name, the beneficial owner of the shares is entitled to give voting instructions to the broker or nominee holding the shares. If the beneficial owner does not provide voting instructions, the broker or nominee can still vote the shares with respect to matters that are considered to be routine, but not with respect to non-routine matters. Under the rules and interpretations of the New York Stock Exchange (NYSE), non-routine matters are matters that may substantially affect the rights or privileges of shareholders, such as mergers, shareholder proposals and, for the first time, under a new amendment to the NYSE rules, elections of directors, even if not contested.

How many votes are needed to approve each proposal?

For the election of directors, the two nominees receiving the most For votes (from the holders of votes of shares present in person or represented by proxy and entitled to vote on the election of directors) will be elected. Only votes For or Withheld will affect the outcome.

To be approved, Proposal No. 2 to ratify the selection of KPMG LLP as the Company s independent auditors for fiscal year 2010 must receive For votes from the holders of a majority of shares present and entitled to vote either in person or by proxy. If you Abstain from voting, it will have the same effect as an Against vote. Broker non-votes will have no effect.

What is the quorum requirement?

A quorum of stockholders is necessary to hold a valid meeting. A quorum will be present if stockholders holding at least a majority of the outstanding shares entitled to vote are present at the meeting in person or represented by proxy. On the record date, there were 7,620,448 shares outstanding and entitled to vote. Thus, the holders of 3,810,225 shares must be present in person or represented by proxy at the meeting to have a quorum.

Your shares will be counted towards the quorum only if you submit a valid proxy (or one is submitted on your behalf by your broker, bank or other nominee) or if you vote in person at the meeting. Abstentions and broker non-votes will be counted towards the quorum requirement. If there is no quorum, the holders of a majority of shares present at the meeting in person or represented by proxy may adjourn the meeting to another date.

How can I find out the results of the voting at the Annual Meeting?

Preliminary voting results will be announced at the Annual Meeting. In addition, final voting results will be published in a current report on Form 8-K that we expect to file within four business days after the Annual Meeting. If final voting results are not available to us in time to file a Form 8-K within four business days after the meeting, we intend to file a Form 8-K to publish preliminary results and, within four business days after the final results are known to us, file an additional Form 8-K to publish the final results.

Explanatory Note

The Company was originally incorporated as Hyseq, Inc. in Illinois in 1992 and reincorporated in Nevada in 1993. On January 31, 2003, the Company merged with Variagenics, Inc., a publicly traded Delaware corporation based in Massachusetts, and, in connection with the merger, changed its name to Nuvelo, Inc. On March 25, 2004, Nuvelo was reincorporated from Nevada to Delaware. On January 27, 2009, Nuvelo, Inc. completed its business combination with ARCA biopharma, Inc., a Delaware corporation (ARCA Colorado), in accordance with the terms of the Agreement and Plan of Merger and Reorganization, dated September 24, 2008, as amended October 28, 2008, by and among Nuvelo, Inc., Dawn Acquisition Sub, Inc., a wholly-owned subsidiary of Nuvelo, Inc., or Merger Sub, and ARCA Colorado (the Merger Agreement). Pursuant to the Merger Agreement, Merger Sub merged with and into ARCA Colorado, with ARCA Colorado continuing after the merger as the surviving corporation and a wholly-owned subsidiary of Nuvelo, Inc. ARCA Colorado was then merged into the Company in December 2009. At the effective time of the merger, Nuvelo, Inc. changed its name to ARCA biopharma, Inc. (ARCA). Immediately following the effective time of the merger, former ARCA Colorado stockholders owned approximately 67% of the outstanding common stock of the new company, and former Nuvelo stockholders owned approximately 33% of the outstanding common stock of the new company. These transactions are referred to herein as the merger. Unless the context otherwise requires or as otherwise stated herein, all references herein to the Company, ARCA, we, us and our refer to ARCA Colorado prior to the completion of the merger and to ARCA biopharma, Inc. following the completion of the merger and the name change, and all references to Nuvelo refer to Nuvelo, Inc. prior to the completion of the merger and the name change.

Proposal 1

Election Of Directors

The Company s Amended and Restated Certificate of Incorporation provides that the Board of Directors is divided into three classes to provide for staggered terms and that each director will serve for a term of three years or less, depending on the class to which the Board of Directors has assigned a director not previously elected by the stockholders. The Board of Directors presently has nine members. There are currently three Class II directors, whose terms expire at the annual stockholders meeting in 2011, and four Class III directors, whose terms expire at the annual stockholders meeting in 2012. The Board of Directors has nominated two Class I directors, Dr. Linda Grais and Dr. John L. Zabriskie, for election to the Board of Directors, each for a three-year term ending on the date of the annual meeting in 2013 or until a successor is duly elected and qualified or appointed. There is currently one vacancy in the Class I directors and the Company has not nominated anyone to fill that vacancy. This vacancy can be filled at any time, but there are no immediate plans to do so. Stockholders may not vote for more than two nominees even though there is a vacancy. Vacancies on the Board may be filled only by persons elected by a majority of the remaining directors. A director elected by the Board to fill a vacancy in a class, including vacancies created by an increase in the number of directors, shall serve for the remainder of the full term of that class and until the director s successor is duly elected and qualified.

If elected at the Annual Meeting, each of these nominees would serve until the 2013 annual meeting and until his or her successor has been duly elected and qualified, or, if sooner, until the director s death, resignation or removal. It is the Company s policy to encourage directors and nominees for director to attend the Annual Meeting. Nine of the Company s ten directors then on the Board attended the 2009 Annual Meeting of Stockholders.

Directors are elected by a plurality of the votes of the holders of shares present in person or represented by proxy and entitled to vote on the election of directors. The two nominees receiving the highest number of affirmative votes will be elected. Each person nominated for election has agreed to serve if elected. The Company s management has no reason to believe that any nominee will be unable to serve.

Director Qualifications and Diversity

The below paragraphs provide information as of the date of this proxy statement about each nominee and current members of the Board of Directors, including age, all positions currently held, principal occupation and business experience for the past five years. In addition to the information presented regarding each nominee s specific experience, qualifications, attributes and skills that led the Board to conclude that such director or nominee should be able to serve as a director, the Board also believes that all of the directors and nominees have a reputation of integrity, honesty and adherence to high ethical standards. They each have demonstrated business acumen and an ability to exercise sound judgment as well as a commitment to service to ARCA and the Board.

Our Nominating and Corporate Governance Committee considers diversity in the director identification and nomination process. The Nominating and Corporate Governance Committee seeks nominees with a broad diversity of experience, professions, skills, geographic representation and backgrounds. Such Committee does not assign specific weights to particular criteria and no particular criterion is necessarily applicable to all prospective nominees. ARCA believes that the backgrounds and qualifications of the directors, considered as a group, should provide a significant composite mix of experience, knowledge and abilities that will allow the Board to fulfill its responsibilities. Nominees are not discriminated against on the basis of race, religion, national origin, sexual orientation, disability or any other basis proscribed by law.

Nominees for Election for a Three-year Term Expiring at the 2013 Annual Meeting

Linda Grais, M.D.

Dr. Grais, age 53, has served as a member of the Company s Board of Directors since the merger with Nuvelo in January 2009. Before the merger, Dr. Grais had served as a director of ARCA Colorado since May

2007. Dr. Grais is currently a partner at InterWest, where she has been since May 2005. From July 1998 to July 2003, Dr. Grais was a founder and executive vice president of SGX Pharmaceuticals Inc., a drug discovery company focusing on new treatments for cancer. Prior to that, she was a corporate attorney at Wilson Sonsini Goodrich & Rosati, where she practiced in such areas as venture financings, public offerings and strategic partnerships. Before practicing law, Dr. Grais worked as an assistant clinical professor of Internal Medicine and Critical Care at the University of California, San Francisco. Dr. Grais received a B.A. from Yale University, magna cum laude, and Phi Beta Kappa, an M.D. from Yale Medical School and a J.D. from Stanford Law School. Dr. Grais is an appropriate nominee to the Company s Board of Directors because of her diverse training and experience as both a medical doctor and a lawyer, her experience as a founder and senior executive of a pharmaceutical company, and her experience as an investor in new life sciences companies. She has also has extensive experience with and knowledge of the Company s business from her service on the Board of ARCA Colorado since 2007, and her service as a Board and Committee member for the Company since January 2009.

John L. Zabriskie, Ph.D.

Dr. Zabriskie, age 70, has served as a member of the Company s Board of Directors since the merger. Before the merger, Dr. Zabriskie had served as a director of ARCA Colorado since March 2005. Dr. Zabriskie is Co-Founder and Director of Puretech Ventures, LLC, and the past Chairman of the Board, Chief Executive Officer, and President of NEN Life Science Products, Inc., a supplier of kits for labeling and detection of DNA. Prior to joining NEN Life Science Products in July 1997, Dr. Zabriskie was President and Chief Executive Officer of Pharmacia and Upjohn Inc. Prior to joining Upjohn in 1994, Dr. Zabriskie was Executive Vice President for Merck & Co., Inc. He currently serves on the Board of Directors of Array BioPharma Inc., Kellogg Co. and Puretech Ventures. As part of a member of the Board of Directors for Kellogg Co., Dr. Zabriskie has served on the audit committee for the past ten years. Within the past five years, Dr. Zabriskie has also served on the Board of Directors of Momenta Pharmaceuticals, Inc. and MacroChem Corporation. Dr. Zabriskie received his undergraduate degree in chemistry from Dartmouth College and his Ph.D. in organic chemistry from the University of Rochester. Dr. Zabriskie is an appropriate nominee to the Company s Board of Directors due to his extensive experience in the pharmaceutical industry, including senior management experience up to the level of president and chief executive officer of significant public companies, as well as his experience on the boards of directors of public companies, including service on audit committees. Dr. Zabriskie also has extensive experience with and knowledge of the Company s business from his service on the Board of ARCA Colorado since 2005, and his service as a Board member and Chairman of the Audit Committee of the Company since January 2009.

THE BOARD OF DIRECTORS RECOMMENDS

A VOTE IN FAVOR OF EACH NAMED NOMINEE.

DIRECTORS CONTINUING IN OFFICE UNTIL THE 2011 ANNUAL MEETING

Michael R. Bristow, M.D., Ph.D.

Dr. Bristow, age 65, has served as the Company s President and Chief Executive Officer since July 2009. Prior to that time, Dr. Bristow served as the Company s Chief Science and Medical Officer and a director since the merger with Nuvelo. Dr. Bristow has also served as a director of ARCA Colorado since November 2006. Dr. Bristow was one of the founders of ARCA Colorado in September 2004, and served as its Chairman and Chief Executive Officer from that date until he was appointed to the position of Chief Science and Medical Officer in November 2006. Dr. Bristow is a Professor of Medicine and the former Head of Cardiology at the University of Colorado Health Sciences Center, where he has been since October 1991. Dr. Bristow was one of the founders of Myogen, Inc. and served as Myogen s Chief Science and Medical Officer from October 1996 to February 2006 and as a Scientific Advisor to Myogen from February 2006 until the acquisition of Myogen by Gilead Sciences, Inc. in November 2006. Dr. Bristow is an appropriate member of the Company s Board of Directors given his extensive experience and expertise as a cardiologist, medical researcher and drug developer in the field of cardiovascular medicine, and heart failure specifically, and his experience as a founder and

manager of a cardiovascular-focused, public pharmaceutical company. Dr. Bristow also has extensive experience with and knowledge of ARCA s business, as the founder and former Chief Science and Medical Officer of ARCA Colorado, and the current President and Chief Executive Officer of ARCA, and as a Board member of ARCA Colorado since 2005, and of the Company since January 2009.

Richard B. Brewer

Mr. Brewer, age 59, has served as a director since the merger with Nuvelo and currently serves as the Company s Chairman of the Board of Directors. Mr. Brewer also served as the Company s President and Chief Executive Officer from date the merger until July 2009. Mr. Brewer also served as the President and Chief Executive Officer and a director of ARCA Colorado from November 2006 until the merger. Prior to joining ARCA Colorado, from January 2003, Mr. Brewer was Managing Partner of Crest Asset Management, where he provided guidance to and invested in biotechnology opportunities. Before that, Mr. Brewer was President and Chief Executive Officer of Scios., Inc, a biopharmaceutical company. Before Scios, Mr. Brewer served as Chief Operating Officer of Heartport, a cardiovascular device company developing minimally invasive approaches to major heart surgery. Prior to that, he spent over a decade at Genentech in various management positions, including Senior Vice President of Sales and Marketing and Senior Vice President of Genentech Europe and Canada. Mr. Brewer currently serves as the Chairman of the Board of Directors of Dendreon Corporation. Mr. Brewer also currently serves as a director of SRI International, an independent, non-profit research group. Mr. Brewer holds a B.S. from Virginia Polytechnic Institute and an M.B.A. from Northwestern University. Mr. Brewer is an appropriate member of the Company s Board of Directors, given his extensive experience in the biotechnology and pharmaceutical industries, including cardiovascular-focused companies, and including senior management experience up to the level of president and chief executive officer of a public, cardiovascular-focused, pharmaceutical company. Mr. Brewer also has extensive experience with, and knowledge of ARCA s business, as the former President and Chief Executive Officer of both ARCA and ARCA Colorado, and as a Board member of ARCA Colorado since 2006, of the Company since January 2009, and as its current Chairman.

Mary K. Pendergast

Ms. Pendergast, age 59, has served as a member of the Company s Board of Directors since the merger and as a member of Nuvelo s Board of Directors since May 2002. Since September 2003, Ms. Pendergast has been president of Pendergast Consulting. Ms. Pendergast served as Executive Vice President, Government Affairs for Elan Corporation from 1998 to December 2003. Ms. Pendergast was Deputy Commissioner and Senior Advisor to the Commissioner, Food and Drug Administration, Department of Health and Human Services from 1990 to 1998 and spent eighteen years in total at the Food and Drug Administration. Ms. Pendergast received her LL.M. from Yale Law School in 1977, her J.D. from the University of Iowa College of Law in 1976, and her B.A. from Northwestern University in 1972. Ms. Pendergast is an appropriate member of the Company s Board of Directors, given her extensive experience in government regulation of pharmaceutical products, including extensive experience as an employee, including senior positions, at the Food and Drug Administration and in the pharmaceutical industry. Ms. Pendergast also has extensive knowledge of the Company s business from her experience as a Board and Committee member of Nuvelo, Inc. prior to the merger, and as a member of the ARCA Board and Committees since January 2009, including as Chairman of the Nominating and Corporate Governance Committee.

Directors Continuing in Office Until the 2012 Annual Meeting

Jean-François Formela, M.D.

Dr. Formela, age 53, has served as a member of Company s Board of Directors since the merger with Nuvelo. Dr. Formela had also served as a director of ARCA Colorado from February 2006 until the merger. Dr. Formela is a Partner of and joined Atlas Venture in 1993 to help build the U.S. Life Sciences franchise. Previously, he was Senior Director, Medical Marketing and Scientific Affairs at Schering-Plough in the U.S. During his tenure there, he was responsible for the marketing of Intron A, Schering-Plough s alpha-interferon. In

his last position at Schering-Plough, Dr. Formela directed the U.S. Phase IV studies in all therapeutic areas, as well as the health economics and medical marketing groups. As a medical doctor, Dr. Formela practiced emergency medicine at Necker University Hospital in Paris. Since joining Atlas Venture, Dr. Formela has been involved in the formation of companies such as Adnexus, Archemix, ArQule, Aureon Laboratories, Cellzome, deCODE, Exelixis, MorphoSys, NxStage, Resolvyx Pharmaceuticals, and SGX Pharmaceuticals. In the past five years, Dr. Formela has served on the Boards of Directors of Achillon Pharmaceuticals, Inc., SGX Pharmaceuticals, Inc., NxStage Medical, Inc. and deCODE genetics. Dr. Formela received his M.D. from Paris University School of Medicine, and his M.B.A. from Columbia University. Dr. Formela is an appropriate member of the Company s Board of Directors, given his medical background, his extensive experience in the pharmaceutical industry, and his extensive experience as an investor in and board member of new biotechnology and pharmaceutical companies. Dr. Formela also has extensive experience with, and knowledge of ARCA s business, having been on the Board of ARCA Colorado since 2006, and on the Board and a Committee member of the Company since January 2009.

J. William Freytag, Ph.D.

Dr. Freytag, age 58, has served as a member of the Company s Board of Directors since the merger with Nuvelo. Dr. Freytag had also served as a director of ARCA Colorado from March 2007 until the merger. Dr. Freytag is a member of the Board of Directors of BaroFold, Inc., a private, venture-financed biotherapeutics company located in Boulder, Colorado and served as its President and Chief Executive Officer from January 2009 to August 2009. Prior to BaroFold, Dr. Freytag was Chairman and Chief Executive Officer of Aspreva Pharmaceuticals from July 2007 until its merger with Galenica AG in January 2008. Prior to Aspreva, Dr. Freytag was President, Chief Executive Officer and Chairman of the Board of Directors of Myogen, Inc. from July 1998 until Myogen was acquired by Gilead Sciences in November 2006. From November 2006 through June 2007 Dr. Freytag served as Senior Advisor to Gilead. From October 1994 to May 1998, Dr. Freytag was a Senior Vice President at Somatogen, Inc. Prior to Somatogen, he was President of Research and Development at Boehringer Mannheim Corporation, an international healthcare company, from May 1990 to September 1994. Previously, Dr. Freytag spent ten years with DuPont in various research and business positions in the Medical Products Department. Dr. Freytag currently serves as a Director for three healthcare companies: BaroFold, Inc., GlobeImmune, Inc. and BiOptix, Inc. In the past five years, Dr. Freytag has served on the Boards of Directors of both Immunicon Corp. and Aspreva Pharmaceuticals, Inc. Dr. Freytag received a B.S. from Purdue University and a Ph.D. in biochemistry from the University of Kansas Medical Center. Dr. Freytag is an appropriate member of the Company s Board of Directors, given his extensive experience in the pharmaceutical industry, including in senior management positions up to the level of president and chief executive officer of public pharmaceutical companies, including a public, cardiovascular-focused pharmaceutical company, and his experience in cardiovascular drug development. Dr. Freytag also has extensive experience with, and knowledge of ARCA s business, having been on the Board of ARCA Colorado since 2007, and on the Board and Chairman of the Compensation Committee of the Company, and its Lead Independent Director, since January 2009.

Ted W. Love, M.D.

Dr. Love, age 51, has served as a member of the Company s Board of Directors since the merger and as a member of Nuvelo s Board of Directors since February 2001. Before the Company s merger, Dr. Love had served as Nuvelo s President since January 2001, as its Chief Executive Officer since March 2001, and as Chairman of its Board of Directors since September 2005. Dr. Love served as Nuvelo s President and Chief Operating Officer from January 2001 until March 2001. Prior to joining Nuvelo, Dr. Love served as Senior Vice President of Development at Theravance Inc. from 1998 to 2001 and as a research physician and Vice President of Product Development at Genentech from 1992 to 1998. He currently serves as an Executive Vice President and the Head of Research and Development for Onyx Pharmaceuticals, Inc. Dr. Love also serves as a member of the Board of Directors of Santarus, Inc., Bio-Rad Laboratories, Inc., and Affymax, Inc. Dr. Love holds a B.A. in molecular biology from Haverford College and an M.D. from Yale Medical School. Dr. Love is an appropriate member of the Company s Board of Directors, given his medical background as a cardiologist, extensive

experience in the pharmaceutical industry, including in senior management positions up to the level of president and chief executive officer of a public, cardiovascular-focused pharmaceutical company, and his experience in cardiovascular drug development. Dr. Love also has extensive experience with, and knowledge of ARCA s business, having been the President and Chief Executive Officer of Nuvelo, Inc. and its Chairman of the Board prior to the merger, and as a member of the Board of the Company since January 2009.

Burton E. Sobel, M.D.

Dr. Sobel, age 72, has served as a member of the Company s Board of Directors since the merger and as a member of Nuvelo s Board of Directors since September 2004. Since June 2005, Dr. Sobel has served as Professor of Medicine and Biochemistry at the University of Vermont and Fletcher Allen Health Care, where he formerly served as Chair of the Department of Medicine from 1994 to June 2005. Since July 2005, he has served also as Director of the Cardiovascular Research Institute at the University of Vermont. Dr. Sobel served as Senior Counsel to the Executive Dean of the University of Vermont College of Medicine and to the Executive Vice President of Fletcher Allen Health Care from 1996 to 1998. From 1994 to 1996, Dr. Sobel served as Professor of Medicine at Washington University in St. Louis, Missouri. Dr. Sobel serves as a member of the Board of Directors of Intrexon, Inc. and Clinical Data, Inc. In the last five years, Dr. Sobel has also served on the Boards of Directors of Ariad Pharmaceuticals, Inc. and New River Pharmaceuticals, Inc. Dr. Sobel received his M.D. from the Harvard Medical School, magna cum laude, and his A.B. from Cornell University. Dr. Sobel is an appropriate member of the Company s Board of Directors, given his medical training, his background in cardiovascular research, and his experience in cardiovascular drug development. Dr. Sobel also has extensive experience with, and knowledge of ARCA s business, having been on the Board and Committees of Nuvelo, Inc. prior to the merger, and on the Board and Committees of the Company since January 2009.

Information Regarding The Board of Directors and Corporate Governance

Independence of The Board of Directors

As required under the NASDAQ Stock Market (NASDAQ) listing standards, a majority of the members of a listed company s Board of Directors must qualify as independent, as affirmatively determined by the Board of Directors. The Board consults with the Company s counsel to ensure that the Board s determinations are consistent with relevant securities and other laws and regulations regarding the definition of independent, including those set forth in pertinent listing standards of the NASDAQ, as in effect from time to time.

Consistent with these considerations, after review of all relevant identified transactions or relationships between each director, or any of his or her family members, and the Company, its senior management and its independent auditors, the Board has affirmatively determined that the following six directors are independent directors within the meaning of the applicable NASDAQ listing standards: Dr. Formela, Dr. Freytag, Dr. Grais, Ms. Pendergast, Dr. Sobel and Dr. Zabriskie. In making this determination, the Board found that none of the these directors or nominees for director had a material or other disqualifying relationship with the Company. Dr. Bristow, the Company s President and Chief Executive Officer, Mr. Brewer, the Company s former President and Chief Executive Officer and Dr. Love, Nuvelo s former President, are not independent directors by virtue of their relationship or former relationship with the Company.

Board Leadership Structure

The Company s Board of Directors is currently chaired by the Richard Brewer. The Board has also appointed Dr. Freytag as Lead Independent Director.

The Company separates the roles of CEO and Chairman of the Board in recognition of the differences between the two roles. The Company believes that the CEO should be responsible for the day to day leadership and performance of the Company, while the Chairman of the Board should set the strategic direction and provide guidance to the CEO. The Chairman also sets the agenda for Board meetings and presides over them. Mr. Brewer

is the Company s former Chief Executive Officer and is uniquely positioned to understand the detailed operations of the Company as well as provide the leadership to help to develop strategy. As CEO, Dr. Bristow is then able to implement the strategic initiatives and business plans approved by the Board.

Because Mr. Brewer, the Chairman, is not independent , the Board appointed Dr. Freytag as the Lead Independent Director to help reinforce the independence of the Board as a whole. The position of Lead Independent Director has been structured to serve as an effective balance to the Chief Executive Officer and Board Chair. The Lead Independent Director is empowered to coordinate the activities of the other independent directors and perform such other duties and responsibilities as the Board may determine, including: scheduling and presiding over regular meetings of the independent directors; serving as principal liaison between the Chairman of the Board and the independent directors; providing the Chairman with input as to the preparation of the agendas for Board; providing the Chairman with input as to the information submitted by the Company s management in order for the independent directors to perform their duties; making recommendations to the Board on behalf of the independent directors; and undertaking such further responsibilities that the independent directors as a whole may designate to the Lead Independent Director from time to time.

In addition, the Company believes that the Lead Independent Director can effectively coordinate between the Board and management with regard to the determination and implementation of responses to any problematic risk management issues. As a result, the Company believes that the Lead Independent Director can help ensure the effective independent functioning of the Board in its oversight responsibilities. In addition, the Company believes that the Lead Independent Director is well positioned to build a consensus among directors and to serve as a conduit between the other independent directors and the Board Chair, for example, by facilitating the inclusion on meeting agendas of matters of concern to the independent directors.

Role of the Board in Risk Oversight and Risk Management

One of the Board s key functions is informed oversight of the Company s risk management process. The Board does not have a standing risk management committee, but rather administers this oversight function directly through the Board as a whole, as well as through various Board standing committees that address risks inherent in their respective areas of oversight. In particular, while the Board is responsible for monitoring and assessing strategic risk exposure, the audit committee has the responsibility to consider and discuss the major financial risk exposures and the steps management has taken to monitor and control these exposures, including guidelines and policies to govern the process by which risk assessment and management is undertaken. The audit committee also monitors compliance with legal and regulatory requirements, in addition to oversight of the performance of ARCA s accounting and financial reporting processes. The nominating and corporate governance committee monitors the effectiveness of the corporate governance guidelines, including whether they are successful in preventing illegal or improper liability-creating conduct. The compensation committee assesses and monitors whether any compensation policies and programs have the potential to encourage excessive risk-taking. The entire Board and its Committees address risk management issues from time-to-time and at least annually meet with the employees responsible for risk management in the committees respective areas of oversight. Both the Board as a whole and the various standing committees receive periodic reports from the employees responsible for risk management, as well as incidental reports as matters may arise. It is the responsibility of the committee chairs to report findings regarding material risk exposures to the Board as quickly as possible.

Meetings of The Board of Directors

The Board of Directors met eight times during the last fiscal year since the merger with Nuvelo in January 2009. Each Board member attended 75% or more of the aggregate number of meetings of the Board and of the committees on which s/he served, held during the portion of the last fiscal year for which s/he was a director or committee member, with the exception of Dr. Lowe who attended two out of the three Nominating and Corporate Governance committee meetings prior to his resignation from the Board on July 31, 2009.

Information Regarding Committees of the Board of Directors

The Board has three committees: an Audit Committee, a Compensation Committee and a Nominating and Corporate Governance Committee. The following table provides membership and meeting information for fiscal 2009, since the merger with Nuvelo in January 2009, for each of the Board committees:

Name	Audit	Compensation	Nominating and Corporate Governance
Dr. Michael Bristow			
Mr. Richard Brewer			
Dr. Ted Love			
Dr. Jean-François Formela		X	
Dr. J. William Freytag		X*	
Ms. Mary K. Pendergast	X		X*
Dr. Burton E. Sobel	X		X***
Dr. John L. Zabriskie	X*		
Dr. Linda Grais		X	X
Dr. David G. Lowe**			X
Total meetings in fiscal 2009 since merger	7	5	5

* Committee Chairperson

** Dr. Lowe resigned from the Board on July 31, 2009.

*** Effective February 5, 2010, Dr. Sobel was elected to serve on the Nominating and Corporate Governance committee.

Below is a description of each committee of the Board of Directors. Each of the committees has authority to engage legal counsel or other experts or consultants, as it deems appropriate to carry out its responsibilities. The Board of Directors has determined that each member of each committee meets the applicable NASDAQ rules and regulations regarding independence and that each member is free of any relationship that would impair his or her individual exercise of independent judgment with regard to the Company.

Audit Committee

The Audit Committee of the Board of Directors was established by the Board in accordance with Section 3(a)(58)(A) of the Securities Exchange Act of 1934, as amended (the Exchange Act), to oversee the Company s corporate accounting and financial reporting processes and audits of its financial statements. For this purpose, the Audit Committee performs several functions. The Audit Committee evaluates the performance of and assesses the qualifications of the independent auditors; determines and approves the engagement of the independent auditors; determines whether to retain or terminate the existing independent auditors or to appoint and engage new independent auditors; reviews and approves the retention of the independent auditors to perform any proposed permissible non-audit services; monitors the rotation of partners of the independent auditors on the Company s audit engagement team as required by law; reviews and approves or rejects transactions between the company and any related persons; confers with management and the independent auditors regarding the effectiveness of internal controls over financial reporting; establishes procedures, as required under applicable law, for the receipt, retention and treatment of complaints received by the Company regarding accounting, internal accounting controls or auditing matters and the confidential and anonymous submission by employees of concerns regarding questionable accounting or auditing matters; and meets to review the Company s annual audited financial statements and quarterly financial statements with management and the independent auditor, including a review of the Company s disclosures under Management s Discussion and Analysis of Financial Condition and Results of Operations. The Audit Committee is composed of three directors: Ms. Pendergast, Dr. Sobel and Dr. Zabriskie. The Audit Committee met seven times during the fiscal year. The Audit Committee has adopted a written charter that is available to stockholders on the Company s website at www.arcabiopharma.com.

The Board of Directors reviews the NASDAQ listing standards definition of independence for Audit Committee members on an annual basis and has determined that all members of the Company s Audit Committee are independent (as independence is currently defined in Rule 5605(c)(2)(A)(i) and (ii) of the NASDAQ listing standards). The Board of Directors has also determined that Dr. Zabriskie qualifies as an audit committee financial expert, as defined in applicable SEC rules. The Board made a qualitative assessment of Dr. Zabriskie s level of knowledge and experience based on a number of factors, including his prior experience, business acumen and independence.

Report of the Audit Committee of the Board of Directors[1]

The Audit Committee has reviewed and discussed the audited financial statements for the fiscal year ended December 31, 2009 with management of the Company. The Audit Committee has discussed with the independent registered public accounting firm the matters required to be discussed by Statement on Auditing Standards No. 61, as amended (AICPA, *Professional Standards*, Vol. 1, AU section 380), as adopted by the Public Company Accounting Oversight Board (PCAOB) in Rule 3200T. The Audit Committee has also received the written disclosures and the letter from the independent registered public accounting firm required by applicable requirements of the PCAOB regarding the independent accountants communications with the audit committee concerning independence, and has discussed with the independent registered public accounting firm the accounting firm s independence. Based on the foregoing, the Audit Committee has recommended to the Board of Directors that the audited financial statements be included in the Company s Annual Report on Form 10-K for the fiscal year ended December 31, 2009.

Dr. John Zabriskie

Dr. Burton Sobel

Ms. Mary Pendergast

Compensation Committee

The Compensation Committee is composed of three directors: Dr. Freytag, Dr. Jean-François Formela and Dr. Grais. All members of the Compensation Committee are independent, as independence is currently defined in Rule 5605(a)(2) of the NASDAQ listing standards. The Compensation Committee met five times during the fiscal year. The Compensation Committee has adopted a written charter that is available to stockholders on the Company s website at www.arcabiopharma.com.

The Compensation Committee of the Board of Directors acts on behalf of the Board to review, adopt and oversee the Company s compensation strategy, policies, plans and programs, including:

- overseeing succession planning for senior management of the Company, including a review of the performance and advancement potential of current and future senior management and succession plans for each and recommending, as appropriate, the retention of potential succession candidates;
- assessing the overall compensation structure of the Company and evaluating and recommending changes to the Company s compensation philosophies and strategies;
- reviewing and approving performance-based compensation plans or programs, including establishing goals and targets, applicable to the Chief Executive Officer and other members of the management team;
- administering, reviewing, and approving all executive compensation programs or plans, and all of the Company s incentive compensation and stock plans and awards thereunder of the Company, including amendments to the programs, plans or awards made thereunder;

[1] The material in this report is not soliciting material, is not deemed filed with the Commission and is not to be incorporated by reference in any filing of the Company under the Securities Act or the Exchange Act, whether made before or after the date hereof and irrespective of any

general incorporation language in any such filing.

preparing and discussing with the Company s management the Compensation Discussion and Analysis, or the CD&A, if required to be included in the Company s annual meeting proxy statement and recommending to the Board that the CD&A be included in the annual meeting proxy statement, to the extent required; and

preparing and approving the Report of the Compensation Committee to be included as part of the Company s annual meeting proxy statement, to the extent required.

Compensation Committee Processes and Procedures

Typically, the Compensation Committee meets on a regular basis as it deems appropriate. The agenda for each meeting is usually developed by the Chair of the Compensation Committee. The Compensation Committee meets regularly in executive session. However, from time to time, various members of management and other employees as well as outside advisors or consultants may be invited by the Compensation Committee to make presentations, to provide financial or other background information or advice or to otherwise participate in Compensation Committee meetings. The Chief Executive Officer may not participate in, or be present during, any deliberations or determinations of the Compensation Committee regarding his compensation or individual performance objectives. The Compensation Committee has the sole authority to retain compensation consultants to assist in its evaluation of executive and director compensation, including the authority to approve the consultant s reasonable fees and other retention terms.

In early 2009, the Compensation Committee retained the services of a compensation consultant, Compensia, to assist the Compensation Committee in assessing ARCA s equity and cash compensation to all employees. In February 2009, the Company s Board of Directors and Compensation Committee completed a review of the Company s executive compensation in light of general market conditions in the life science industry and the completion of the merger with Nuvelo, pursuant to which the management of ARCA became the management of the Company. Compensia assisted in this review. As part of this review process, Compensia identified a peer group of pre-revenue generating biotechnology companies that had become public companies prior to the middle of 2006. This peer group included Acadia Pharmaceuticals, Alexza Pharmaceuticals, Allos Therapeutics, Array Biopharma, Cytokinetics, Cytori Therapeutics, Dendreon, Geron, Incyte, Intermune, Neurocrin Biosciences and Pain Therapeutics. No other services were retained from compensation consultants.

In setting 2009 base salary and cash bonus award amounts for the ARCA Named Executive Officers, the Compensation Committee analyzed the peer group data and targeted cash compensation in the 50th percentile of cash compensation paid to similarly situated executive officers within the peer group. In light of its considerations, the Compensation Committee recommended and the Board of Directors approved increases to base salary of Mr. Brewer to $456,000 and of Dr. Bristow to $365,000. The increased base salaries became effective retroactively as of January 1, 2009. Effective July 10, 2009, Dr. Bristow took a voluntary reduction of his base salary by $100,000 to $265,000 in order to conserve the Company s available cash.

Historically, the Compensation Committee has made most of the significant adjustments to annual compensation, determined bonus and equity awards and established new performance objectives at one or more meetings held during the first quarter of the year. However, the Compensation Committee also considers matters related to individual compensation, such as compensation for new executive hires, as well as high-level strategic issues, such as the efficacy of the Company s compensation strategy, potential modifications to that strategy and new trends, plans or approaches to compensation, at various meetings throughout the year. Generally, the Compensation Committee s process comprises two related elements: the determination of compensation levels and the establishment of performance objectives for the current year.

The Committee reviews and approves the compensation of the Chief Executive Officer and the other executive officers of the Company, including annual base salaries, annual and long-term incentive or bonus awards, employment agreements, and severance and change in control agreements/provisions, in each case as, when and if appropriate, and any special or supplemental benefits. For executives other than the Chief Executive

Officer, the Compensation Committee solicits and considers evaluations and recommendations submitted to the Committee by the Chief Executive Officer. The Committee evaluates the performance of the Chief Executive Officer in light of Company and individual goals and objectives, and makes appropriate recommendations for improving performance. In performing the evaluation, the Chair of the Committee may solicit comments from the other non-employee members of the Board and lead the Board in an overall review of the Chief Executive Officer s performance in an executive session of non-employee Board members. If the compensation for the Chief Executive Officer or any other executive officer is governed by an employment agreement, the Committee approves such employment agreement and any amendments thereto.

For all executives as part of its deliberations, the Compensation Committee may review and consider, as appropriate, materials such as financial reports and projections, operational data, tax and accounting information, tally sheets that set forth the total compensation that may become payable to executives in various hypothetical scenarios, executive and director stock ownership information, company stock performance data, analyses of historical executive compensation levels and current Company-wide compensation levels.

Nominating and Corporate Governance Committee

The Nominating and Corporate Governance Committee of the Board of Directors is responsible for identifying, reviewing and evaluating candidates to serve as directors of the Company (consistent with criteria approved by the Board), reviewing and evaluating incumbent directors, recommending to the Board candidates for election to the Board of Directors, making recommendations to the Board regarding compensation for Board and Committee service, making recommendations to the Board regarding the membership of the committees of the Board, assessing the performance of the Board and developing a set of corporate governance principles for the Company. The Nominating and Corporate Governance Committee is composed of three directors: Ms. Pendergast (Chair), Dr. Sobel and Dr. Grais. All members of the Nominating and Corporate Governance Committee are independent (as independence is currently defined in Rule 5605(a)(2) of the NASDAQ listing standards). Additionally, Dr. Lowe was independent during his tenure on the Nominating and Corporate Governance Committee prior to his resignation in July 2009. The Nominating and Corporate Governance Committee met five times during the fiscal year. The Nominating and Corporate Governance Committee has adopted a written charter that is available to stockholders on the Company s website and www.arcabiopharma.com.

The Board has adopted a process for identifying and evaluating director nominees, including stockholder nominees. Before recommending an individual to the Board for Board membership, the Nominating and Corporate Governance Committee canvasses its members and the Company s management team for potential members of the Board of Directors. The Nominating and Corporate Governance Committee will consider stockholders recommendations for nominees to serve as director if notice is timely received by the Secretary of the Company. Candidates nominated by stockholders will be evaluated in the same manner as other candidates. The Nominating and Corporate Governance Committee keeps the Board regularly apprised of its discussions with potential nominees, and the names of potential nominees received from its current directors, management, and stockholders, if the stockholder notice of nomination is timely made. Although the Board has not adopted a fixed set of minimum qualifications for candidates for Board membership, the Nominating and Corporate Governance Committee generally considers several factors in its evaluation of each potential member, such as the potential member s area of expertise, education, and professional background, experience in corporate governance, the reasonable availability of the potential member to devote time to the affairs of the Company, as well as any other criteria deemed relevant by the Board or the Nominating and Corporate Governance Committee. However, the Nominating and Corporate Governance Committee retains the right to modify these qualifications from time to time. Candidates for director nominees are reviewed in the context of the current composition of the Board, the operating requirements of the Company and the long-term interests of stockholders. In conducting this assessment, the Nominating and Corporate Governance Committee typically considers diversity, age, skills and such other factors as it deems appropriate given the current needs of the Board and the Company, to maintain a balance of knowledge, experience and capability. The Nominating and

Corporate Governance Committee believes it is essential that Board members come from a variety of backgrounds and experiences. In the case of incumbent directors whose terms of office are set to expire, the Nominating and Corporate Governance Committee reviews these directors overall service to the Company during their terms, including the number of meetings attended, level of participation, quality of performance and any other relationships and transactions that might impair the directors independence. In the case of new director candidates, the Nominating and Corporate Governance Committee also determines whether the nominee is independent for NASDAQ purposes, which determination is based upon applicable NASDAQ listing standards, applicable SEC rules and regulations and the advice of counsel, if necessary. The Nominating and Corporate Governance Committee then uses its network of contacts to compile a list of potential candidates, but may also engage, if it deems appropriate, a professional search firm. The Nominating and Corporate Governance Committee conducts any appropriate and necessary inquiries into the backgrounds and qualifications of possible candidates after considering the function and needs of the Board. The Nominating and Corporate Governance Committee meets to discuss and consider the candidates qualifications and then selects a nominee for recommendation to the Board by majority vote.

Stockholders who wish to recommend individuals for consideration by the Nominating and Corporate Governance Committee to become nominees for election to the Board of Directors may do so by delivering a written recommendation to the Nominating and Corporate Governance Committee addressed to the Corporate Secretary, between 60 and 90 days before the anniversary date of ARCA s last Annual Meeting of Stockholders. Recommendations must include the full name of the proposed nominee, a description of the proposed nominee s business experience for at least the previous five years, complete biographical information, a description of the proposed nominee s qualifications as a director, and a representation that the recommending stockholder is a beneficial or record owner of ARCA s stock. Any such submission must be accompanied by the written consent of the proposed nominee to be named as a nominee and to serve as a director if elected. To date, the Nominating and Corporate Governance Committee has not rejected a timely director nominee from a stockholder or stockholders holding more than 5% of the Company s voting stock.

In 2009, the Nominating and Corporate Governance Committee did not pay any fees to anyone to assist in the process of identifying or evaluating director candidates.

Stockholder Communications With The Board Of Directors

The Company s Board has adopted a formal process by which stockholders may communicate with the Board or any of its directors. Stockholders who wish to communicate with the Board may do so by mail or e-mail as specifically set forth on ARCA s website at www.arcabiopharma.com, under the section titled, Investors and the subsection titled Corporate Governance .

Code of Ethics

The Company has adopted the ARCA biopharma, Inc. Code of Business Conduct and Ethics that applies to all officers, directors and employees. The Code of Business Conduct and Ethics is available on the Company s website at www.arcabiopharma.com. If the Company makes any substantive amendments to the Code of Business Conduct and Ethics or grants any waiver from a provision of the Code of Business Conduct and Ethics to any executive officer or director, the Company will promptly disclose the nature of the amendment or waiver on its website and file any current report on Form 8-K required by applicable law or NASDAQ listing standards.

PROPOSAL 2

RATIFICATION OF SELECTION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Audit Committee of the Board of Directors has selected KPMG LLP as the Company s independent registered public accounting firm for the fiscal year ending December 31, 2010 and has further directed that management submit the selection of independent registered public accounting firm for ratification by the stockholders at the Annual Meeting. KPMG LLP audited the 2009 fiscal year financial statements as well. Representatives of KPMG LLP are expected to be present at the Annual Meeting. They will have an opportunity to make a statement if they so desire and will be available to respond to appropriate questions.

Neither the Company s Bylaws nor other governing documents or law require stockholder ratification of the selection of KPMG LLP as the Company s independent registered public accounting firm. However, the Board is submitting the selection of KPMG to the stockholders for ratification as a matter of good corporate practice. If the stockholders fail to ratify the selection, the Audit Committee of the Board will reconsider whether or not to retain that firm. Even if the selection is ratified, the Audit Committee of the Board in its discretion may direct the appointment of different independent auditors at any time during the year if they determine that such a change would be in the best interests of the Company and its stockholders.

The affirmative vote of the holders of a majority of the shares present in person or represented by proxy and entitled to vote at the Annual Meeting will be required to ratify the selection of KPMG LLP. Broker non-votes are counted towards a quorum, but are not counted for any purpose in determining whether this matter has been approved.

On March 25, 2009, ARCA dismissed its prior independent registered public accounting firm, Ernst & Young LLP, or EY, and subsequently engaged KPMG. The dismissal of EY and the engagement of KPMG were approved by the Audit Committee.

KPMG was the independent registered public accounting firm that audited the financial statements of ARCA Colorado for its fiscal years through December 31, 2008 prior to the merger with Nuvelo described above.

For accounting purposes, ARCA Colorado is deemed to have acquired the Company pursuant to the transactions contemplated by the merger, and the historical financial statements of ARCA Colorado are considered to be the historical financial statements of the Company after the merger, pursuant to the rules and regulations of the SEC.

During Nuvelo s fiscal years ended December 31, 2008 and 2007, and in the Company s subsequent interim period from January 1, 2009 through March 25, 2009, the date of the dismissal of EY, with regard to Nuvelo s financial statements for the fiscal years ended December 31, 2008 and 2007, (i) there were no disagreements with EY on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which disagreements, if not resolved to EY s satisfaction, would have caused EY to make reference to the subject matter of the disagreement in connection with its report, and (ii) there were no reportable events of the type described in Item 304(a)(1)(v) of Regulation S-K. In connection with a related Current Report on Form 8-K, we provided EY with a copy of the foregoing disclosures and requested that EY furnish the Company with a letter addressed to the SEC stating whether or not it agreed with the disclosures substantially equivalent to the disclosures set forth above. A letter from EY to the SEC, dated March 30, 2009, was attached as Exhibit 16.1 to the Current Report on Form 8-K that was filed with the SEC on March 30, 2009 stating that it read Item 4.01(a) of Form 8-K dated March 25, 2009, of ARCA biopharma, Inc. (formerly known as Nuvelo, Inc.) and was in agreement with the statements contained in the third, fourth, fifth paragraphs and the first sentence of the sixth paragraph on page 2 therein, and that it had no basis to agree or disagree with other statements of the registrant contained therein.

Prior to the decision to engage KPMG, ARCA did not consult with KPMG regarding the application of accounting principles to a specified transaction, either completed or proposed, the type of audit opinion that might be rendered on the consolidated financial statements, or any other matters or reportable events described in Item 304(a)(2)(ii) of Regulation S-K.

Principal Accountant Fees and Services

The following table represents aggregate fees billed to the Company for the fiscal year ended December 31, 2009 by KPMG LLP, the Company s principal accountant.

	Fiscal Year Ended 2009
Audit Fees(1)	$ 235,795
Audit-related Fees	
Tax Fees(2)	10,400
All Other Fees	
Total Fees	$ 246,195

(1) Audit Fees include fees for the (i) audit of the consolidated financial statements included in our Form 10-K for our fiscal years ended December 31, 2009, (ii) review of interim consolidated financial statements included on Forms 10-Q and (iii) attest, consent and review services normally provided by the accountant in connection with SEC filings.

(2) Tax fees include fees for services rendered for tax compliance, tax advice and tax planning.

All fees described above were approved by the Audit Committee.

Pre-Approval Policies and Procedures.

The above services performed by the independent registered public accounting firms were pre-approved in accordance with the pre-approval policy and procedures adopted by the Audit Committee. This policy describes the permitted audit, audit-related, tax, and other services that the independent registered public accounting firm may perform. The policy also requires that an annual description of the services expected to be performed by the independent registered public accounting firm during the subsequent fiscal year in each of these categories be presented to the Audit Committee for pre-approval. Any pre-approval details the particular service or category of services.

Any requests for audit, audit-related, tax, and other services not contemplated by those pre-approved services must be submitted to the Audit Committee for specific pre-approval. Generally, pre-approval is considered at the Audit Committee s regularly scheduled meetings. However, the authority to grant specific pre-approval between meetings, as necessary, has been delegated to the chairman of the Audit Committee. In the event that the chairman is not available, the other two Audit Committee members together have the authority to grant specific pre-approval between meetings. The chairman or the other two members must update the Audit Committee at the next regularly scheduled meeting of any services that were granted specific pre-approval.

The independent auditor s report of KPMG LLP on the consolidated financial statements of the Company for the two years ended December 31, 2009, dated March 4, 2010, included in the Form 10-K filed with the SEC on March 4, 2010 states that the Company s recurring losses from operations, dependence upon raising additional funds from strategic transactions, sales of equity, and/or issuance of debt, and the uncertainty surrounding the Company s ability to consummate such transactions, raise substantial doubt about the Company s ability to continue as a going concern. KPMG LLP s report on the financial statements for the past two years contained no adverse opinion or disclaimer of opinion and was not qualified as to audit scope or accounting principles.

The Board Of Directors Recommends

A Vote In Favor Of Proposal 2.

Security Ownership of

Certain Beneficial Owners and Management

The following table sets forth certain information regarding the ownership of the Company s common stock as of April 2, 2010 by: (i) each director and nominee for director; (ii) each of the executive officers named in the Summary Compensation Table; (iii) all executive officers and directors of the Company as a group; and (iv) all those known by the Company to be beneficial owners of more than five percent of its common stock.

	Beneficial Ownership(1)	
Beneficial Owner	**Number of Shares**	**Percent of Total**
Directors and Named Executive Officers		
Michael R. Bristow, M.D., Ph.D.(2)	289,753	3.3%
Patrick M. Wheeler(3)	29,763	*
Christopher D. Ozeroff(4)	84,051	*
Kathryn Falberg(5)	0	*
Lee Bendekgey(6)	0	*
Richard B. Brewer(7)	258,358	2.9%
Jean-Francois Formela, M.D.(8)	1,343,487	15.2%
J. William Freytag, Ph.D.(9)	22,960	*
Linda Grais, M.D.(10)	527,779	6.0%
Ted W. Love, M.D.(11)	132,781	1.5%
Mary K. Pendergast(12)	10,865	*
Burton Sobel, M.D.(13)	8,750	*
John L. Zabriskie, Ph.D.(14)	53,632	*
All current directors and executive officers as a group (11 persons)	**2,762,179**	**29.8%**
5% Stockholders		
InterWest Partners IX, LP(15)	521,904	6.0%
Atlas Venture Fund VII, L.P.(16)	1,337,612	15.2%

* Represents beneficial ownership of less than 1% of our common stock.

(1) Beneficial ownership is determined in accordance with Rule 13d-3 under the Exchange Act and generally includes voting or investment power with respect to securities. Applicable percentages are based on 8,734,459 shares outstanding on April 2, 2010. Shares of common stock subject to options and warrants which are currently exercisable, or will become exercisable within 60 days of April 2, 2010, are deemed outstanding for computing the percentage of the person or entity holding such securities but are not outstanding for computing the percentage of any other person or entity. Except as indicated by footnote, and subject to the community property laws where applicable, to our knowledge the persons named in the table above have sole voting and investment power with respect to all shares of common stock shown as beneficially owned by them. Unless otherwise indicated, the address for each person is our address at 8001 Arista Place, Suite 200, Broomfield, CO 80021.

(2) Includes options to purchase 9,682 shares that are exercisable within 60 days of April 2, 2010.

(3) Includes options to purchase 26,425 shares that are exercisable within 60 days of April 2, 2010.

(4) Includes options to purchase 4,634 shares that are exercisable within 60 days of April 2, 2010.

(5) Ms. Falberg served in the position of Chief Financial Officer and Chief Operating Officer from February 24, 2009 through November 30, 2009.

(6) Mr. Bendekgey resigned from the position of General Counsel effective January 27, 2009 and resigned from the position of Chief Financial Officer effective February 24, 2009.

(7) Includes options to purchase 174,868 shares that are exercisable within 60 days of April 2, 2010, 165,644 of which are subject to ARCA s right of repurchase, which lapses at the rate of 25% upon grant and 6.25% at the end of each three-month period following the first anniversary of the November 2, 2006 grant date. Of these options, as of April 2, 2010, 20,705 were subject to a right of repurchase in favor of ARCA.

(8) Includes the following owned directly by Atlas Venture Fund VII, L.P. (AV VII): (a) 1,262,163 shares and (b) 75,449 shares issuable upon exercise of a warrant, which warrant is immediately exercisable. As general partner of AV VII, Atlas Venture Associates VII, L.P. (AVA VII LP), may also be deemed to beneficially own these shares. Dr. Formela, a partner with Atlas Venture and one of the Company s directors may be deemed to beneficially own these shares. Dr. Formela disclaims beneficial ownership of these shares except to the extent of his pecuniary interest therein. Each of AV VII and AVA VII LP disclaims beneficial ownership of the shares except to the extent of its pecuniary interest therein. Also includes options to purchase 5,875 shares that are exercisable within 60 days of April 2, 2010. These options were granted to Dr. Formela and the proceeds of any sale of the Company s common stock issued to Dr. Formela upon the exercise of this option will be transferred to Atlas Venture Advisors, Inc. (Atlas Advisors) and therefore Dr. Formela disclaims beneficial ownership of such shares which belong to Atlas Advisors. The address for Dr. Formela is 890 Winter Street, Suite 320, Waltham, MA 02451.

(9) Consists of options to purchase 22,960 shares that are exercisable within 60 days of April 2, 2010.

(10) Includes the following owned directly by InterWest Partners IX, LP: (a) 491,889 shares and (b) 30,015 shares issuable upon exercise of a warrant, which warrant is immediately exercisable. Dr. Grais, one of the Company s directors, is a venture member of InterWest Management Partners IX, LLC, the general partner of InterWest Partners IX, LP. Dr. Grais has shared voting and dispositive powers over the shares held by InterWest Partners IX, LP. She disclaims beneficial ownership of these shares, except to the extent of her pro rata partnership interest therein. Also includes options to purchase 5,875 shares that are exercisable within 60 days of April 2, 2010. The address for Dr. Grais is 2710 Sand Hill Road, Second Floor, Menlo Park, CA 94025.

(11) Includes options to purchase 129,201 shares that are exercisable within 60 days of April 2, 2010.

(12) Includes options to purchase 10,832 shares that are exercisable within 60 days of April 2, 2010.

(13) Consists of options to purchase 8,750 shares that are exercisable within 60 days of April 2, 2010.

(14) Consists of (a) options to purchase 24,452 shares that are exercisable within 60 days of April 2, 2010, and (b) 29,180 shares owned directly by Lansing Brown Investments, LLC. Dr. Zabriskie, one of the Company s directors, is the President of Lansing Brown Investments, LLC. Dr. Zabriskie has shared voting and dispositive powers over the shares held by Lansing Brown Investments, LLC. He disclaims beneficial ownership of these shares, except to the extent of his pecuniary interest in them.

(15) Consists of the following owned directly by InterWest Partners IX, LP, (a) 491,889 shares and (b) 30,015 shares issuable upon exercise of a warrant, which warrant is immediately exercisable. The address for InterWest Partners IX, LP is 2710 Sand Hill Road, Second Floor, Menlo Park, CA 94025.

(16) Consists of the following owned directly by Atlas Venture Fund VII, L.P., or AV VII, (a) 1,262,163 shares and (b) 75,449 shares issuable upon exercise of a warrant, which warrant is immediately exercisable. Atlas Venture Associates VII, L.P. is the general partner of Atlas Venture Fund VII, L.P. Each of AV VII and Atlas Venture Associates VII, L.P. disclaims beneficial ownership of the shares except to the extent of its pecuniary interest therein. The address for Atlas Venture Fund VII, L.P. is 890 Winter Street, Suite 320, Waltham, MA 02451.

SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Exchange Act requires the Company s directors and executive officers, and persons who own more than ten percent of a registered class of the Company s equity securities, to file with the SEC initial reports of ownership and reports of changes in ownership of common stock and other equity securities of the Company. Officers, directors and greater than ten percent stockholders are required by SEC regulation to furnish the Company with copies of all Section 16(a) forms they file.

To the Company s knowledge, based solely on a review of the copies of such reports furnished to the Company and written representations that no other reports were required, during the fiscal year ended December 31, 2009, all Section 16(a) filing requirements applicable to its officers, directors and greater than ten percent beneficial owners were complied with.

EXECUTIVE OFFICERS

Set forth below is information regarding each of the executive officers as of April 7, 2010.

Name	Age	Position
Michael R. Bristow, M.D., Ph.D.*	65	President and Chief Executive Officer
Patrick M. Wheeler	40	Acting Chief Financial Officer
Christopher D. Ozeroff	51	Senior Vice President and General Counsel

* Also serves as a director.

Michael R. Bristow, M.D., Ph.D. Dr. Bristow s biography is included under Proposal 1: Directors Continuing in Office Until the 2011 Annual Meeting above.

Patrick M. Wheeler. Mr. Wheeler has served as the Company s Acting Chief Financial Officer since December 7, 2009. Previously, he held the position of Senior Vice President, Finance of the Company since the merger. Mr. Wheeler joined ARCA Colorado in July 2006 as Vice President, Finance and held the position of Senior Vice President, Finance from February 2008 until the completion of the merger. Prior to his time with ARCA Colorado, he served as Director of Finance for Dharmacon, Inc., a Fisher Scientific, Inc. life science company, from June 2003 to July 2006. Mr. Wheeler has a B.A. in economics from the University of Colorado and an M.B.A. from Regis University.

Christopher D. Ozeroff. Mr. Ozeroff has served as the Company s Senior Vice President and General Counsel since December 7, 2009. Previously, Mr. Ozeroff served as the Company s Executive Vice President of Business Development, General Counsel and Secretary since the merger. Before the merger, Mr. Ozeroff was one of the founders of ARCA Colorado in September 2004, and had served as its Executive Vice President of Business Development, General Counsel and Secretary since that date. From August 1999, Mr. Ozeroff was previously a partner with the law firm of Hogan & Hartson L.L.P., where he practiced in such areas as finance, acquisitions, public offerings, and licensing. Mr. Ozeroff completed his undergraduate degree at Stanford University and his law degree at the University of Chicago Law School.

Executive Compensation

The following table shows for the fiscal years ended December 31, 2009 and 2008, compensation awarded to, paid to, or earned by the Company s principal executive officers and its other named executive officers as of December 31, 2009, and two former executive officers who departed from the Company during 2009, collectively, the Named Executive Officers:

Summary Compensation Table for Fiscal 2009

Name and Principal Position	Year	Salary ($)	Option Awards ($)(1)	Fees Earned or Paid in Cash ($)(2)	All Other Compensation ($)	Total ($)
Michael R. Bristow, President and Chief Executive Officer(3)	2009	317,629	100,939(10)		9,800	428,368
Patrick M. Wheeler, Acting Chief Financial Officer(4)	2009	193,838	63,981(11)		7,245	265,064
Christopher D. Ozeroff, Senior Vice President and General Counsel(5)	2009	272,875			6,033	278,908
Ted Love, Former Chief Executive Officer(6)	2009	58,526	27,281(12)	30,000	4,735,656(14)	4,851,463
	2008	655,000	222,480		5,462	882,942
Richard Brewer, Chairman and Former Chief Executive Officer(7)	2009	258,267	100,939(10)	21,625	1,615	382,446
Kathryn Falberg, Former Chief Financial Officer and Chief Operating Officer(8)	2009	230,769	281,126(13)		654	512,549
Lee Bendekgey, Former Chief Financial Officer and General Counsel(9)	2009	117,780			1,135,446(15)	1,253,226
	2008	375,000	111,240		3,128	489,368

(1) The amounts reported under Option Awards in the above table reflect the grant date fair value of these awards as determined in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718, Compensation Stock Compensation (ASC Topic 718), excluding the effects of estimated forfeitures. The value of stock option awards was estimated using the Black-Scholes option-pricing model. The valuation assumptions used in the valuation of option awards may be found in Note 16 to the Company s consolidated financial statements included in our annual report on Form 10-K for the year ended December 31, 2009 and filed with the SEC on March 4, 2010.

(2) Represents cash compensation for service as a director on the Company s Board of Directors.

(3) Because Dr. Bristow was not a named executive officer in 2008, SEC rules do not require his compensation for that year to be reported.

(4) Because Mr. Wheeler was not a named executive officer in 2008, SEC rules do not require his compensation for that year to be reported.

(5) Because Mr. Ozeroff was not a named executive officer in 2008, SEC rules do not require his compensation for that year to be reported.

(6) Dr. Love resigned from the position of Chief Executive Officer effective January 27, 2009, but continues to serve as a member of the Company s Board of Directors.

(7) Because Mr. Brewer was not a named executive officer in 2008, SEC rules do not require his compensation for that year to be reported. Mr. Brewer resigned from the position of Chief Executive Officer effective July 10, 2009, but currently serves as the Company s Chairman.

(8) Because Ms. Falberg was not a named executive officer in 2008, SEC rules do not require her compensation for that year to be reported. Ms. Falberg resigned from the position of Chief Financial Officer and Chief Operating Officer effective November 30, 2009.

(9) Mr. Bendekgey resigned from the position of General Counsel effective January 27, 2009 and resigned from the position of Chief Financial Officer effective February 24, 2009.

(10) Options to purchase 25,047 shares of the Company s common stock were granted to Dr. Bristow and Mr. Brewer on January 23, 2009, with an exercise price of $5.57 per share, which vest in equal monthly installments over a four year period from the date of grant.

(11) Options to purchase 5,844 shares of the Company s common stock were granted to Mr. Wheeler on January 23, 2009, with an exercise price of $5.57 per share, which vest in equal monthly installments over a four year period from the date of grant. Options to purchase 20,000 shares of the Company s common stock were granted to Mr. Wheeler on June 25, 2009, with an exercise price of $2.90 per share, which vest in equal monthly installments over a four year period from the date of grant. In addition, if the U.S. Food and Drug Administration approves the New Drug Application for Gencaro (the FDA Approval) and provided that Mr. Wheeler remains in service to the Company and fewer than 50% of the shares subject to the option have become vested by such date, the vesting of the option will be accelerated such that, on the date of the FDA Approval, the shares subject to the option will be vested as to an aggregate of 50% of the total number of shares subject to the option, with the balance of the shares vesting thereafter on the original vesting schedule described above.

(12) Options to purchase 7,500 shares of the Company s common stock were granted to Dr. Love on February 27, 2009 for his service as a director on the Company s board, with an exercise price of $5.29 per share, which vest in equal monthly installments over a two year period.

(13) Options to purchase 49,500 shares of the Company s common stock were granted to Ms. Falberg associated with her appointment as the Company s CFO and COO on February 27, 2009, with an exercise price of $5.29 per share, which vest as to 25% one year after the vesting start date and the remainder over the three years thereafter. Options to purchase 50,000 shares of the Company s common stock were granted to Ms. Falberg on June 25, 2009, with an exercise price of $2.90 per share, which vest in equal monthly installments over a four year period from the date of grant. In addition, if FDA Approval had been granted on the New Drug Application for Gencaro and provided that Ms. Falberg remained in service to the Company and fewer than 50% of the shares subject to the option had become vested by such date, the vesting of the option would have been accelerated such that, on the date of the FDA Approval, the shares subject to the option would have been vested as to an aggregate of 50% of the total number of shares subject to the option, with the balance of the shares vesting thereafter on the original vesting schedule described above. Ms. Falberg forfeited $270,596 of unvested stock option awards upon her November 30, 2009 termination.

(14) Upon the closing of the Company s merger with ARCA Colorado, Dr. Love s employment with the Company was terminated in connection with a change in control and he received the following benefits: $1,834,000 of cash severance, $27,662 of medical benefits and $2,872,356 of stock option vesting acceleration. Stock option vesting acceleration amount represents the fair value of unvested stock options that were accelerated upon the closing of the merger on January 27, 2009. The fair value was determined on the grant date of the respective options in accordance with ASC Topic 718 and, therefore, is not indicative of the value that would be ultimately realized upon exercise of these options. As of January 27, 2009, the closing price of the Company s common stock was $4.40 (as adjusted for the 20 for 1 reverse stock split), and the exercise prices of all stock options held by Dr. Love as of that date were above $4.40. Accordingly, Dr. Love would not receive any benefits from the acceleration of stock option vesting.

(15) Mr. Bendekgey s employment with the Company was terminated in connection with a change in control and he received the following benefits: $501,449 of cash severance, $50,000 of cash transition-bonus, $12,867 of medical benefits and $571,130 of stock option vesting acceleration. Stock option vesting acceleration amount represents the fair value of unvested stock options that were accelerated upon the closing of the merger on January 27, 2009. The fair value was determined on the grant date of the respective options in accordance with ASC Topic 718 and, therefore, is not indicative of the value that would be ultimately realized upon exercise of these options. As of January 27, 2009, the closing price of the Company s common stock was $4.40 (as adjusted for the 20 for 1 reverse stock split), and the exercise prices of all stock options held by Mr. Bendekgey as of that date were above $4.40. Accordingly, Mr. Bendekgey would not receive any benefits from the acceleration of stock option vesting.

Narrative Disclosure to Summary Compensation Table

Employment Agreements or Arrangements

Michael R. Bristow, M.D., Ph.D. Dr. Bristow serves as the Company s President and Chief Executive Officer under an Employment and Retention Agreement that was amended and restated as of June 4, 2008. Pursuant to such employment agreement, Dr. Bristow is permitted to continue his academic work for the University of Colorado Health Sciences Center and for the Cardiovascular Institute, so long as it does not interfere with his duties as President and Chief Executive Officer of ARCA.

The Company s Board of Directors approved 2009 annual base salary for Dr. Bristow of $365,000. Effective July 10, 2009, Dr. Bristow took a voluntary reduction of his base salary by $100,000 to $265,000 in order to conserve the Company s available cash. Dr. Bristow s salary is subject to annual increases if approved by the Company s Board of Directors or Compensation Committee and he is eligible to receive an annual bonus as determined by the Board of Directors or Compensation Committee in its sole discretion.

If the Company terminates Dr. Bristow s employment without cause, or if Dr. Bristow terminates his employment with good reason (as these terms are defined in his employment agreement), the Company has agreed to pay Dr. Bristow a severance payment equivalent to (i) 12 months of his base salary, (ii) a pro rata portion of any bonus compensation under any employee bonus plan that has been approved by the Board of Directors payable to him for the fiscal year in which his employment terminated to be paid at the same time that such incentive bonus would have been paid had the termination not occurred, and (iii) reimbursement to cover out-of-pocket costs to continue group health insurance benefits under COBRA for 12 months, whether he elects or is eligible to receive COBRA (provided, that even if he does not elect or is not eligible to receive COBRA, he will receive the equivalent of such out-of-pocket expenses paid by him not to exceed the costs that the benefits would equal under COBRA if he were so eligible). In addition, ARCA may elect in its sole discretion, to pay additional severance equal to up to 12 months of base salary, which additional payment would extend the covenants and obligations under Dr. Bristow s Employee Intellectual Property, Confidentiality and Non-Compete Agreement for such additional period. The severance payment is conditioned on the execution by Dr. Bristow of a legal release in a form acceptable to the Company. A termination for cause includes willful misconduct, gross negligence, theft, fraud, or other illegal or dishonest conduct, any of which are considered to be materially harmful to the Company; refusal, unwillingness, failure, or inability to perform material job duties or habitual absenteeism; or violation of fiduciary duty, violation of any duty of loyalty, or material breach of any material term of the employment agreement or the Employee Intellectual Property, Confidentiality and Non-Compete Agreement, or any other agreement, with the Company. Good reason includes a relocation of normal work location greater than 30 miles; a decrease in current base salary by more than 15%, with certain exceptions; and the Company s unilateral decision to significantly and detrimentally reduce Dr. Bristow s job responsibilities.

Patrick M. Wheeler. Mr. Wheeler serves as the Company s Acting Chief Financial Officer under an Employment Agreement dated February 11, 2009. Under his employment agreement, Mr. Wheeler is entitled to receive an annual base salary of $215,000, subject to annual increases if approved by the Company s Board of Directors or Compensation Committee and is eligible to receive an annual bonus as determined by the Board of Directors or Compensation Committee in its sole discretion.

If the Company terminates Mr. Wheeler s employment without cause, or if Mr. Wheeler terminates his employment with good reason (as these terms are defined in his employment agreement), the Company has agreed to pay Mr. Wheeler severance benefits that include (i) a payment equal to, as applicable, (A) 12 months of his base salary, if such termination occurs on the same day as or within thirteen months after a change of control of the Company, or (B) six months of his base salary, if a change of control of the Company has not occurred on or within thirteen months of such termination, (ii) a payment equal to a pro rata portion of any bonus compensation under any employee bonus plan that has been approved by the board of directors payable to him for the fiscal year in which his employment terminated, to be paid at the same time that such incentive bonus would have been paid had the termination not occurred, and (iii) reimbursement of out-of-pocket costs to continue group health insurance benefits (and dependent coverage, if applicable) under COBRA for a period

equivalent to that set forth in clause (i) above, whether he elects or is eligible to receive COBRA (provided, that even if he does not elect or is not eligible to receive COBRA, he will receive the equivalent of such out-of-pocket expenses paid by him not to exceed the costs that the benefits would equal under COBRA if he were so eligible). In addition the Company may elect in its sole discretion to pay additional severance equal to up to 12 months of his base salary, which additional payment would extend certain of the covenants and obligations under Mr. Wheeler s Employee Intellectual Property, Confidentiality and Non-Compete Agreement for such additional period. The severance benefits are conditioned on the execution by Mr. Wheeler of a legal release in a form acceptable to the Company. A termination for cause includes willful misconduct, gross negligence, theft, fraud or other illegal or dishonest conduct, any of which are considered to be materially harmful to the Company; refusal, unwillingness, failure or inability to perform material job duties or habitual absenteeism; or violation of fiduciary duty, violation of any duty of loyalty or material breach of any material term of the employment agreement or the Employee Intellectual Property, Confidentiality and Non-Compete Agreement, or any other agreement, with the Company. Good reason includes a relocation of normal work location greater than 30 miles; a decrease in current base salary by more than 15%, other than any such decrease resulting from a general reduction by the Company in the base salary of all Company executive officers; and the Company s unilateral decision to significantly and detrimentally reduce Mr. Wheeler s job responsibilities.

Christopher D. Ozeroff. Mr. Ozeroff serves as the Company s Senior Vice President and General Counsel under an Employment and Retention Agreement that was amended and restated as of June 12, 2008.

Under his employment agreement, Mr. Ozeroff is entitled to receive an annual base salary of $259,000, subject to annual increases if approved by the Company s Board of Directors or Compensation Committee and is eligible to receive an annual bonus as determined by the Board of Directors or Compensation Committee in its sole discretion.

If the Company terminates Mr. Ozeroff s employment without cause, or if Mr. Ozeroff terminates his employment with good reason (as these terms are defined in his employment agreement), the Company has agreed to pay Mr. Ozeroff a severance payment equivalent to (i) 12 months of his base salary, (ii) a pro rata portion of any bonus compensation under any employee bonus plan that has been approved by the Board of Directors payable to him for the fiscal year in which his employment terminated to be paid at the same time that such incentive bonus would have been paid had the termination not occurred, and (iii) reimbursement to cover out-of-pocket costs to continue group health insurance benefits under COBRA for 12 months, whether he elects or is eligible to receive COBRA (provided, that even if he does not elect or is not eligible to receive COBRA, he will receive the equivalent of such out-of-pocket expenses paid by him not to exceed the costs that the benefits would equal under COBRA if he were so eligible). In addition, ARCA may elect in its sole discretion, to pay additional severance equal to up to 12 months of base salary, which additional payment would extend the covenants and obligations under Mr. Ozeroff s Employee Intellectual Property, Confidentiality and Non-Compete Agreement for such additional period. The severance payment is conditioned on the execution by Mr. Ozeroff of a legal release in a form acceptable to the Company. A termination for cause includes willful misconduct, gross negligence, theft, fraud, or other illegal or dishonest conduct, any of which are considered to be materially harmful to the Company; refusal, unwillingness, failure, or inability to perform material job duties or habitual absenteeism; or violation of fiduciary duty, violation of any duty of loyalty, or material breach of any material term of the employment agreement or the Employee Intellectual Property, Confidentiality and Non-Compete Agreement, or any other agreement, with the Company. Good reason includes a relocation of normal work location greater than 30 miles; a decrease in current base salary by more than 15%, with certain exceptions; and the Company s unilateral decision to significantly and detrimentally reduce Mr. Ozeroff s job responsibilities.

Non-Equity Incentive Plan Compensation

In February 2007, the Compensation Committee and the Board of Directors of ARCA established a bonus structure for its entire executive team. The philosophy employed was to create incentives for the executive officers to achieve key corporate goals. The Compensation Committee retained discretion to change the bonus structure and the bonus payment amounts as it considered appropriate.

For incentive bonuses tied to 2009 performance, the Compensation Committee and Board of Directors approved a similar bonus structure as they approved for 2008. For 2009 performance, the Compensation Committee of the Board of Directors set a potential bonus target of 50% of base salary for Dr. Bristow and 30% of base salary for Mr. Wheeler and Mr. Ozeroff. For incentive bonuses tied to ARCA s 2009 performance, the Compensation Committee approved a revised set of equally weighted goals, which the Board of Directors of ARCA believes are attainable with a very high level of executive performance and will be challenging to achieve. These goals include:

- compliance with securities laws and stock exchange listing requirements applicable to public companies;
- FDA approval of the new drug application (NDA) for Gencaro;
- FDA approval of LabCorp s premarket approval submission;
- development and execution of the Gencaro commercialization plan;
- securing the manufacturing, tableting, and packaging arrangements adequate for the anticipated commercial launch of Gencaro;
- securing financing to support commercialization of Gencaro;
- development of additional product candidates; and
- development of collaborative relationships to support development and commercialization of Gencaro and other product candidates in additional markets.

The Compensation Committee and Board of Directors reviewed the 2009 corporate goals described above and determined that they had been partially achieved; however, due to the Company s limited financial resources, it was concluded that the Company would not pay cash bonuses related to 2009 performance.

Equity Incentive Compensation

Prior to the merger with Nuvelo, the Compensation Committee of ARCA considered the equity ownership of the executive officers and, based upon the committee members experience investing in and serving on the boards of similar life sciences companies, and upon the executive officers ownership percentages in ARCA, the Compensation Committee of ARCA did not approve any additional option awards in 2008. However, based upon the committee members assessment of equity ownership of executive officers based on the peer group data described above, and in recognition of their efforts to bring about the successful completion of the business combination with Nuvelo, in January 2009, the Board of Directors of ARCA awarded each of Mr. Brewer and Dr. Bristow options to purchase 25,047 shares of ARCA common stock at an exercise price of $5.57 per share pursuant to a Stock Option Agreement between ARCA and Dr. Bristow and the other terms and conditions of the ARCA Colorado 2004 Stock Incentive Plan (the ARCA Plan).

In connection with the merger, a change of control as defined in the ARCA Plan occurred, all outstanding options and restricted stock were substituted for new common stock options and new restricted stock of the Company. Appropriate adjustments as to the number of shares and option prices were made, and outstanding options and restricted stock continue in the manner and under the terms so provided.

Other Elements of Executive Compensation Program

The remaining elements of the Company s executive compensation program, like its broader employee compensation programs, are intended to make the Company s overall compensation program competitive with those of its peer companies, keeping in mind the constraints imposed by the Company s reliance on capital markets as a primary source of cash. The remaining elements of the Company s executive compensation program, (401(k) Plan, Medical, Dental, and Vision Plans, Life and Disability Insurance) are available to all Company employees.

26

Payments Made in Connection with Change in Control

Following the merger with ARCA Colorado on January 27, 2009, each of Nuvelo s then serving Named Executive Officer was entitled to receive the following benefits under the Severance Plan, adopted by the Board of Directors, or, as applicable, such Named Executive Officer s employment agreement to the extent such agreement provided for greater benefits.

Upon the closing of the Company s merger with ARCA Colorado, Dr. Love s employment with the Company was terminated in connection with a change in control and he became entitled to receive the benefits described below. In addition, upon the closing of the merger, Mr. Bendekgey resigned from his position as General Counsel and Secretary of the Company, but agreed to remain as the Company s Chief Financial Officer and Treasurer for a transitional period ending March 31, 2009. Mr. Bendekgey s resignation from his positions constituted a Constructive Termination pursuant to the terms of the Severance Plan. As a result, Mr. Bendekgey was entitled to receive benefits under the Severance Plan payable in connection with a change of control, but agreed to defer the effective date of the Constructive Termination and his rights to receive severance benefits under the Severance Plan until March 31, 2009.

Name	Benefits	Value Received
Ted W. Love, M.D.(1)	Cash severance	$ 1,834,000
	Cash bonus	
	Medical benefits	27,662
	Stock option vesting acceleration(2)	2,872,356
	Total	$ 4,734,018
Lee Bendekgey	Cash severance	$ 501,449
	Cash bonus	50,000
	Medical benefits	12,867
	Stock option vesting acceleration(2)	571,130
	Total	$ 1,135,446

(1) The Company entered into an employment agreement with Dr. Love in January 2001, which was subsequently amended in April 2007. Pursuant to the amended employment agreement, Dr. Love is entitled to cash severance benefits and medical benefits substantially equivalent to those shown above and additional vesting and option exercise benefits related to his stock options, which are described in more details in Employment and Severance Agreements below. In addition, Dr. Love, or his estate, as applicable, are entitled to the benefits under his employment agreement in the event his employment is terminated due to his death or disability.

(2) Amounts represent the fair value of unvested stock options that were accelerated upon the closing of the merger on January 27, 2009. The fair value was determined on the grant date of the respective options in accordance with ASC Topic 718 and, therefore, is not indicative of the value that would be ultimately realized by the Named Executive Officers upon exercise of their options. As of January 27, 2009, the closing price of the Company s common stock was $4.40 (as adjusted for the 20 for 1 reverse stock split), and the exercise prices of all stock options held by the Named Executive Officers as of that date were above $4.40. Accordingly, the Named Executive Officers would not receive any benefits from the acceleration of stock option vesting as provided in the Severance Plan.

Compensation Risks

ARCA believes its approach to goal setting, setting of targets with payouts at multiple levels of performance, and evaluation of performance results assist in mitigating excessive risk-taking that could harm the value or reward poor judgment by its executives. Several features of the Company s programs reflect sound risk

management practices. ARCA believes it has allocated compensation among base salary and short and long-term compensation target opportunities in such a way as to not encourage excessive risk-taking. The mix of equity award instruments used under long-term incentive program that includes full value awards also mitigates risk. Finally, the multi-year vesting of equity awards and share ownership guidelines properly account for the time horizon of risk. Furthermore, the Company s compensation committee assesses and monitors whether any of ARCA s compensation policies and programs has the potential to encourage excessive risk-taking.

Outstanding Equity Awards At Fiscal Year End.

The following table shows for the fiscal year ended December 31, 2009, certain information regarding outstanding equity awards at fiscal year end for the Named Executive Officers.

Outstanding Equity Awards at December 31, 2009

	Option Awards			
Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)	Option Expiration Date
Michael R. Bristow, President and Chief Executive Officer	5,740	19,307(5)	5.57	1/23/2019
Patrick Wheeler, Acting Chief Financial Officer	2,500	17,500(6)	2.90	6/25/2019
	1,339	4,505(5)	5.57	1/23/2019
	10,593	13,619(7)	1.86	2/12/2018
	1,044	625(8)	1.80	5/3/2017
	3,446	1,565(9)	0.90	8/3/2016
Christopher Ozeroff, Senior Vice President and General Counsel	4,101		0.06	1/3/2015
Ted Love, Former Chief Executive Officer(1)	3,438	4,062(10)	5.29	2/27/2019
	9,999		31.30	2/1/2018
	15,000		70.71	2/1/2017
	18,750		334.70	8/1/2016
	22,500		183.30	8/1/2015
	14,999		196.50	1/7/2015
	24,999		203.50	5/7/2014
	3,332		129.00	6/10/2013
	3,332		81.90	5/19/2013
	3,332		132.60	8/6/2012
	1,250		626.40	8/1/2011
	5,303		750.00	1/11/2011
	530		753.75	1/11/2011
Richard Brewer, Former Chief Executive Officer(2)	5,740	19,307(5)	5.57	1/23/2019
	124,233	41,411(11)	0.90	11/2/2016
Kathryn E. Falberg, Former Chief Financial Officer and Chief Operating Officer(3)	5,209		2.90	2/28/2010
Lee Bendekgey, Former Chief Financial Officer and General Counsel(4)				

(1) Dr. Love resigned from the position of Chief Executive Officer effective January 27, 2009, but continues to serve on the Company s Board of Directors.

(2) Mr. Brewer resigned from the position of Chief Executive Officer effective July 10, 2009, but continues to serve as the Company s Chairman.
(3) Ms. Falberg resigned from the position of Chief Financial Officer and Chief Operating Officer effective November 30, 2009.
(4) Mr. Bendekgey resigned from the position of General Counsel effective January 27, 2009 and resigned from the position of Chief Financial Officer effective February 24, 2009.
(5) Options vest in monthly installments through January 23, 2013.
(6) Options vest in monthly installments through June 25, 2013. If the U.S. Food and Drug Administration approves the New Drug Application for Gencaro (the FDA Approval) and provided that Mr. Wheeler remains in service to the Company and fewer than 50% of the shares subject to the option have become vested by such date, the vesting of the option will be accelerated such that, on the date of the FDA Approval, the shares subject to the option will be vested as to an aggregate of 50% of the total number of shares subject to the option, with the balance of the shares vesting thereafter on the original vesting schedule described above.
(7) Options vest in quarterly installments through February 12, 2012.
(8) Options vest in quarterly installments through May 3, 2011.
(9) Options vest in quarterly installments through July 31, 2010.
(10) Options vest in monthly installments through February 27, 2011.
(11) Options are exercisable immediately, but if exercised are subject to the Company s right of repurchase, which lapses in quarterly installments through November 2, 2010.

Director Compensation

The following table shows for the fiscal year ended December 31, 2009 certain information with respect to the compensation of all non-employee directors of the Company:

Director Compensation for Fiscal 2009(1)(2)

Name	Fees Earned or Paid in Cash ($)	Option Awards ($)(3)	Total ($)
Jean-François Formela, M.D.	35,000	27,281	62,281
J. William Freytag, Ph.D.	50,000	33,960	83,960
Linda Grais, M.D.	40,000	27,281	67,281
David G. Lowe, Ph.D.(4)	17,500	27,281(5)	44,781
Mary K. Pendergast	45,000	27,281	72,281
Burton E. Sobel, M.D.	35,000	27,281	62,281
John L. Zabriskie, Ph.D.	45,000	33,960	78,960

(1) Prior to the merger with Nuvelo on January 27, 2009, the following also served as directors of the Company: James R. Gavin, III, M.D., PhD., Mark L. Perry and Kimberly Popovits. None of Dr. Gavin, Mr. Perry or Ms. Popovits received any compensation for the fiscal year 2009.
(2) See Summary Compensation Table for disclosure related to Dr. Michael Bristow, Richard Brewer and Dr. Ted Love.
(3) The amounts reported under Option Awards in the above table reflect the grant date fair value of these awards as determined in accordance with ASC Topic 718, excluding the effects of estimated forfeitures. The value of stock option awards was estimated using the Black-Scholes option-pricing model. The valuation assumptions used in the valuation of option awards may be found in Note 16 to the Company s consolidated financial statements included in our annual report on Form 10-K for the year ended December 31, 2009 and filed with the SEC on March 4, 2010.
(4) Dr. Lowe resigned from the Board on July 31, 2009.
(5) Dr. Lowe forfeited $21,596 of unvested stock option awards upon his July 31, 2009 resignation.

In 2009, nonemployee directors were compensated for their service on the Company s Board, as follows:

Each non-employee director is entitled to an annual retainer fee of $30,000;

As additional compensation for their services, each non-employee director is entitled to an initial grant of options to purchase 7,500 shares of the Company s common stock under the Option Plan and an annual grant of an additional 3,500 shares of the Company s common stock under the Option Plan;

The Audit Committee chair is entitled to receive an additional $15,000 for service as the Audit Committee chair;

If a non-employee director serves as the chair of any other Committee, that director is entitled to receive an additional $10,000 per chair;

Each of the members of the Audit Committee, other than the chair, is entitled to receive an additional $5,000 for his or her service on the Audit Committee;

For membership on any other Committee, except for the chair of such Committee, a non-employee director is entitled to receive an additional $5,000; and

The director designated as the Lead Independent Director is entitled to an annual fee of $10,000.

On February 27, 2009, Dr. Formela, Dr. Freytag, Dr. Love, Ms. Pendergast, Dr. Sobel, Dr. Zabriskie, Dr. Lowe and Dr. Grais each received options to purchase 7,500 shares of the Company s common stock under the Option Plan. The purchase price for these options was $5.29, which was equal to the closing price of the Company s common stock on the date of the grant on the Nasdaq Global Market (Nasdaq).

On December 7, 2009, the Company s board of directors approved the engagement of Richard Brewer, the chairman of the board of directors and the former Chief Executive Officer of the Company, to assist the Company in completing a strategic transaction in order to further the clinical development of Gencaro, the Company s lead product candidate. Pursuant to this arrangement, the Company will compensate Mr. Brewer at a rate of $6,625 per month up to and including the date on which the Company consummates a strategic transaction. The determination of whether a strategic transaction has been consummated shall be determined by the Company s board of directors in its sole discretion, and the board of directors reserves the right to terminate the engagement of Mr. Brewer and to modify or reduce the compensation payable to Mr. Brewer at any time in its sole discretion.

Also on December 7, 2009, the Company s board of directors amended its director compensation policy to increase the annual retainer fee paid to Richard Brewer, as chairman of the board, to $45,000 per year, which is comprised of the standard annual retainer fee of $30,000 paid to all non-employee directors and an annual retainer fee of $15,000 for his service as chairman of the board.

Certain Related-Person Transactions

Transactions with the Company s President and Chief Executive Officer

The Company has entered into certain transactions with the University of Colorado Foundation (CU Foundation), in the form of unrestricted gifts, intended to support the laboratory of Dr. Bristow, its President and Chief Executive Officer (the Lab), for the advancement of research in chronic heart failure. Effective July 1, 2009, the Company stated its intent to make such an unrestricted research gift to the CU Foundation in the amount of 20,167 per month for 12 months, for a total amount of $242,000. Funding of this research gift is contingent upon the Company s financial condition, and can be deferred or terminated, in the Company s sole discretion, at any time. For the period from July 1, 2008 through June 30, 2009, the Company provided funding intended for the Lab under another unrestricted research gift, to the CU Foundation also for $242,000. In the first half of 2008, ARCA provided a research gift to the CU Foundation, which was used as funding for the lab, of approximately $150,000, in accordance with a similar research grant arrangement. Total expense under these arrangements for the years ended

December 31, 2009 and 2008 was $220,000 and $294,000, respectively.

Householding of Proxy Materials

The SEC has adopted rules that permit companies and intermediaries (e.g., brokers) to satisfy the delivery requirements for Notices of Internet Availability of Proxy Materials or other Annual Meeting materials with respect to two or more stockholders sharing the same address by delivering a single Notice of Internet Availability of Proxy Materials or other Annual Meeting materials addressed to those stockholders. This process, which is commonly referred to as householding, potentially means extra convenience for stockholders and cost savings for companies.

This year, a number of brokers with account holders who are ARCA biopharma, Inc. stockholders will be householding the Company s proxy materials. A single Notice of Internet Availability of Proxy Materials will be delivered to multiple stockholders sharing an address unless contrary instructions have been received from the affected stockholders. Once you have received notice from your broker that they will be householding communications to your address, householding will continue until you are notified otherwise or until you revoke your consent. If, at any time, you no longer wish to participate in householding and would prefer to receive a separate Notice of Internet Availability of Proxy Materials, please notify your broker or ARCA biopharma, Inc. Direct your written request to Secretary, ARCA biopharma, Inc., 8001 Arista Place, Suite 200, Broomfield, CO 80021 or contact Investor Relations at 720-940-2100. Stockholders who currently receive multiple copies of the Notices of Internet Availability of Proxy Materials at their addresses and would like to request householding of their communications should contact their brokers.

Other Matters

The Board of Directors knows of no other matters that will be presented for consideration at the Annual Meeting. If any other matters are properly brought before the meeting, it is the intention of the persons named in the accompanying proxy to vote on such matters in accordance with their best judgment.

By Order of the Board of Directors

Christopher Ozeroff

Secretary, Senior Vice President and General Counsel

April 7, 2010

A copy of the Company s Annual Report to the Securities and Exchange Commission on Form 10-K for the fiscal year ended December 31, 2009 is available without charge upon written request to: Corporate Secretary, ARCA biopharma, Inc., 8001 Arista Place, Suite 200, Broomfield, CO 80021.

Electronic Voting Instructions

You can vote by Internet or telephone!

Available 24 hours a day, 7 days a week!

Instead of mailing your proxy, you may choose one of the two voting methods outlined below to vote your proxy.

VALIDATION DETAILS ARE LOCATED BELOW IN THE TITLE BAR.

Proxies submitted by the Internet or telephone must be received by

11:59 p.m., Mountain Time, on May 20, 2010.

Vote by Internet

Log on to the Internet and go to
www.envisionreports.com/ABIO

Follow the steps outlined on the secured website.

Vote by telephone

Call toll free 1-800-652-VOTE (8683) within the USA,

US territories & Canada any time on a touch tone telephone. There is **NO CHARGE** to you for the call.

Follow the instructions provided by the recorded message.

Using a **black ink** pen, mark your votes with an X as shown in
this example. Please do not write outside the designated areas.

X

Annual Meeting Proxy Card

IF YOU HAVE NOT VOTED VIA THE INTERNET OR TELEPHONE, FOLD ALONG THE PERFORATION, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE.

A Proposals The Board of Directors recommends a vote FOR all the nominees listed and FOR Proposal 2.

1. Election of Two Directors for a three-year term ending at the Annual Meeting of Stockholders in 2013 or until the election and qualification of their respective successors.

NOMINEES:

	For	Withhold		For	Withhold
	••	••		••	••
01 - Linda Grais, M.D.			02 - John L. Zabriskie, Ph.D.		

	For	Against	Abstain
2. Ratification of the selection of KPMG LLP as the Company s independent registered public accounting firm for the fiscal year ending December 31, 2010.	••	••	••

In their discretion, the proxies are also authorized to vote upon such other matters as may properly come before the Annual Meeting.

B Non-Voting Items

Change of Address Please print your new address below.

Comments Please print your comments below.

Meeting Attendance
Mark the box to the right ••
if you plan to attend the
Annual Meeting.

C Authorized Signatures This section must be completed for your vote to be counted. Date and Sign Below

Please date and sign exactly as the name appears on this card. Joint owners should each sign. Please give full title when signing as executor, administrator, trustee, attorney, guardian for a minor, etc. Signatures for corporations and partnerships should be in the corporate or firm name by a duly authorized person.

Date (mm/dd/yyyy) Please print date below. Signature 1 Please keep signature within the box. Signature 2 Please keep signature within the box.

/ /

1UPX

016AUB

IF YOU HAVE NOT VOTED VIA THE INTERNET OR TELEPHONE, FOLD ALONG THE PERFORATION, DETACH AND RETURN THE BOTTOM PORTION IN THE ENCLOSED ENVELOPE.

Proxy ARCA BIOPHARMA, INC.

PROXY SOLICITED BY THE BOARD OF DIRECTORS OF ARCA BIOPHARMA, INC.

FOR THE ANNUAL MEETING OF STOCKHOLDERS TO BE HELD ON MAY 21, 2010

The undersigned hereby acknowledges receipt of the Notice of Annual Meeting of Stockholders and Proxy Statement of ARCA biopharma, Inc. (the Company), dated April 7, 2010, in connection with the Company s Annual Meeting of Stockholders to be held at the Renaissance Suites, 500 Flatiron Blvd., Broomfield, CO 80021, at 9:00 a.m., Mountain Time, on Friday, May 21, 2010, and does hereby appoint Michael R. Bristow, M.D., Ph.D., Patrick M. Wheeler and Christopher D. Ozeroff, and each of them (with full power to act alone), proxies of the undersigned with all the powers the undersigned would possess if personally present and with full power of substitution in each of them, to appear and vote all shares of Common Stock of the Company which the undersigned would be entitled to vote if personally present at the 2010 Annual Meeting of Stockholders, and at any adjournment or adjournments thereof.

The shares represented hereby will be voted as directed herein. **IN EACH CASE, IF NO DIRECTION IS INDICATED, SUCH SHARES WILL BE VOTED FOR PROPOSALS 1 AND 2. AS TO ANY OTHER MATTER THAT MAY PROPERLY COME BEFORE THE MEETING OR ANY ADJOURNMENTS THEREOF, SAID PROXY HOLDERS WILL VOTE IN ACCORDANCE WITH THEIR BEST JUDGMENT. THIS PROXY MAY BE REVOKED IN WRITING AT ANY TIME PRIOR TO THE VOTING THEREOF.**

PLEASE VOTE, DATE AND SIGN ON THE REVERSE SIDE AND RETURN PROMPTLY IN THE ENCLOSED ENVELOPE.

Please be sure to sign and date this Proxy.