

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

SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a) of the Securities
Exchange Act of 1934 (Amendment No.)

Filed by the Registrant
Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material Pursuant to §240.14a-12

IDERA PHARMACEUTICALS, 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):

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

3) Filing Party:

4) Date Filed:

IDERA PHARMACEUTICALS, INC.

167 Sidney Street
Cambridge, Massachusetts 02139

NOTICE OF 2008 ANNUAL MEETING OF STOCKHOLDERS

Date and Time: June 4, 2008 at 10:00 a.m., local time

Place: Idera Pharmaceuticals
167 Sidney Street
Cambridge, Massachusetts 02139

Items of Business: At the meeting, we will ask our stockholders to:

- Elect three Class I Directors to our board of directors for terms to expire at the 2011 annual meeting of stockholders;
- Approve an amendment to our Restated Certificate of Incorporation increasing the number of authorized shares of common stock from 40,000,000 to 70,000,000 shares;
- Approve our 2008 Stock Incentive Plan;
- Approve an amendment to our 1995 Employee Stock Purchase Plan to increase the number of shares authorized for issuance thereunder from 125,000 shares to 250,000 shares;
- Ratify the selection by our audit committee of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2008; and
- Transact any other business as may properly come before the meeting or any postponement or adjournment of the meeting.

The board of directors has no knowledge of any other business to be transacted at the annual meeting.

Record Date: You may vote at this annual meeting if you were a stockholder of record at the close of business on April 7, 2008.

Proxy Voting: It is important that your shares be represented and voted at the meeting. Whether or not you plan to attend the meeting, please mark, sign, date and promptly mail your proxy card in the enclosed postage-paid envelope or follow the instructions on the proxy card to vote by telephone or internet. You may revoke your proxy at any time before its exercise at the meeting.

By order of the board of directors,

/s/ LOUIS J. ARCUDI, III
Louis J. Arcudi, III
Secretary

Cambridge, Massachusetts
, 2008

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IDERA PHARMACEUTICALS, INC.

167 Sidney Street
Cambridge, Massachusetts 02139

PROXY STATEMENT

For our Annual Meeting of Stockholders to be held on June 4, 2008

Idera Pharmaceuticals, Inc., a Delaware corporation, which is referred to as “we” or “us” in this document, is sending you this proxy statement and the enclosed proxy card because our board of directors is soliciting your proxy to vote at our 2008 annual meeting of stockholders. The annual meeting will be held on Wednesday, June 4, 2008, at 10:00 a.m., local time, at our offices at 167 Sidney Street, Cambridge, Massachusetts. If the annual meeting is adjourned for any reason, then proxies submitted may be used at any adjournments of the annual meeting.

This proxy statement summarizes information about the proposals to be considered at the meeting and other information you may find useful in determining how to vote. The proxy card is the means by which you actually authorize another person to vote your shares in accordance with your instructions.

We are mailing this proxy statement and the enclosed proxy card to stockholders on or about _____, 2008.

In this mailing, we are also including copies of our annual report to stockholders for the year ended December 31, 2007. Our annual report on Form 10-K for the year ended December 31, 2007, as filed with the Securities and Exchange Commission, including our audited financial statements, is included in our annual report to stockholders and is also available free of charge on our website, www.iderapharma.com, and can be accessed by clicking “Investors” and then “SEC Filings” or through the SEC’s electronic data system at www.sec.gov. **To request a printed copy of our Form 10-K, which we will provide to you free of charge, either write to Investor Relations, Idera Pharmaceuticals, Inc., 167 Sidney Street, Cambridge, Massachusetts, 02139, or email Investor Relations at ir@iderapharma.com.**

INFORMATION ABOUT THE ANNUAL MEETING Who may vote?

Holders of record of our common stock at the close of business on April 7, 2008, the record date for the meeting, are entitled to one vote per share on each matter properly brought before the meeting. As of the close of business on April 7, 2008, we had 22,270,797 shares of our common stock outstanding.

A list of registered stockholders entitled to vote will be available at the meeting. In addition, you may contact our Secretary, Louis J. Arcudi, III, at our address set forth above, to make arrangements to review a copy of the stockholder list at our offices, for any purpose germane to the meeting, between the hours of 8:30 A.M. and 5:00 P.M., local time, on any business day from May 25, 2008 up to the time of the meeting.

How may I vote my shares if I am a stockholder of record?

If you are a stockholder of record (meaning that you hold shares in your name in the records of our transfer agent, BNY Mellon Shareowner Services, and that your shares are not held in “street name” by a bank or brokerage firm), you may vote your shares in any one of the following ways:

- *You may vote by mail.* To vote by mail, you need to complete, date and sign the proxy card that accompanies this proxy statement and promptly mail it in the enclosed postage-prepaid envelope. You do not need to put a stamp on the enclosed envelope if you mail it in the United States.
- *You may vote by telephone.* To vote by telephone through services provided by BNY Mellon Shareowner Services call 1-866-540-5760, and follow the instructions provided on each proxy card. If you vote by telephone, you do not need to complete and mail your proxy card.
- *You may vote by Internet.* To vote over the Internet through services provided by BNY Mellon Shareowner Services, please go to the following website: <http://www.proxyvoting.com/idra> and follow the instructions at

that site for submitting your proxy card. If you vote on the Internet, you do not need to complete and mail your proxy card.

- *You may vote in person.* If you attend the annual meeting, you may vote by delivering your completed proxy card in person or you may vote by completing a ballot at the meeting. Ballots will be available at the meeting.

Your proxy will only be valid if you complete and return the proxy card, vote by telephone or vote by Internet on or before the annual meeting. The persons named in the proxy card will vote the shares you own in accordance with your instructions on your proxy card, in your vote by telephone or in your vote by Internet. If you return the proxy card, but do not give any instructions on a particular matter described in this proxy statement, the persons named in the proxy card will vote the shares you own in accordance with the recommendations of our board of directors.

The proxy card enclosed with this proxy statement states the number of shares you are entitled to vote if you are a stockholder of record.

How may I vote my shares if I hold them in “street name?”

If the shares you own are held in “street name” by a bank or brokerage firm, your bank or brokerage firm, as the record holder of your shares, is required to vote your shares according to your instructions. In order to vote your shares, you will need to follow the directions your bank or brokerage firm provides you. Many banks and brokerage firms may solicit voting instructions over the internet or by telephone.

If you do not give instructions to your bank or brokerage firm, it will still be able to vote your shares with respect to certain “discretionary” items, but will not be allowed to vote your shares with respect to certain “non-discretionary” items. The election of directors (proposal one) and the ratification of Ernst & Young LLP, our independent registered public accounting firm (proposal five) are considered discretionary items. However, the approval of the amendment to our Restated Certificate of Incorporation (proposal two), the approval of our 2008 Stock Incentive Plan (proposal three) and the amendment to our 1995 Employee Stock Purchase Plan (proposal four) are non-discretionary items. Accordingly, if you do not give instructions to your bank or brokerage firm with respect to proposals two, three or four, or if your bank or brokerage firm does not exercise its discretionary authority with respect to proposal one or five, your shares will be treated as “broker non-votes” on that particular matter. “Broker non-votes” are shares with respect to which a bank or brokerage firm does not receive voting instructions from the beneficial holder or does not have or exercise discretionary authority in voting on a proposal.

Regardless of whether your shares are held in street name, you are welcome to attend the meeting. If your shares are held in street name, you may not vote your shares in person at the meeting unless you obtain a proxy, executed in your favor, from the holder of record (i.e., your brokerage firm or bank). If you hold your shares in street name and wish to vote in person, please contact your brokerage firm or bank before the meeting to obtain the necessary proxy from the holder of record.

How may I change or revoke my vote?

If you are a stockholder of record, even if you complete and return a proxy card, you may revoke it at any time before it is exercised by taking one of the following actions:

- send written notice to our Secretary, Louis J. Arcudi, III, at our address above, stating that you wish to revoke your proxy;
- send us another signed proxy card with a later date, vote by telephone or vote by internet; or
- attend the meeting, notify our Secretary that you are present, and then vote by ballot.

If you own shares in street name, your bank or brokerage firm should provide you with instructions for changing your vote.

What constitutes a quorum?

In order for business to be conducted at the meeting, a quorum must be present. A quorum consists of the holders of at least 11,135,399 shares, representing a majority of the shares of common stock issued, outstanding and entitled to vote at the meeting.

Shares of common stock present in person or represented by proxy (including broker non-votes and shares that are abstained or withheld, or with respect to which no voting instructions are provided for one or more of the matters to be voted upon) will be counted for the purpose of determining whether a quorum exists.

If a quorum is not present, the meeting will be adjourned until a quorum is obtained.

What vote is required to approve each matter?

Proposal One — Election of Directors — Directors will be elected by a plurality of the votes cast by our stockholders entitled to vote on the election. In other words, the three nominees for director receiving the highest number of votes FOR election will be elected as directors, regardless of whether any of those numbers represents a majority of the votes cast.

You may vote FOR all of the nominees, WITHHOLD your vote from all of the nominees or WITHHOLD your vote from any one or more of the nominees.

Proposal Two — Approve Increase to Authorized Common Stock — The affirmative vote of the holders of a majority of the outstanding shares of common stock entitled to vote at the meeting is needed to approve an amendment to our Restated Certificate of Incorporation to increase the number of shares of authorized common stock.

Proposal Three — Approve our 2008 Stock Incentive Plan — The affirmative vote of the holders of a majority of the shares of common stock present or represented and voting on the matter is needed to approve our 2008 Stock Incentive Plan.

Proposal Four — Approval of the Amendment to our 1995 Employee Stock Purchase Plan — The affirmative vote of the holders of a majority of the shares of common stock present or represented and voting on the matter is needed to approve the amendment to our 1995 Employee Stock Purchase Plan.

Proposal Five — Ratification of the Selection of Ernst & Young LLP — The affirmative vote of the holders of a majority of the shares of common stock present or represented and voting on the matter is needed to ratify the selection of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2008.

How will votes be counted?

Each share of common stock will be counted as one vote. Shares will not be voted in favor of a matter, and will not be counted as voting on a matter if the holder of the shares either withholds authority in the proxy to vote for a particular director nominee or nominees, or abstains from voting on a particular matter, or if the shares are broker non-votes. As a result, withheld shares, abstentions and broker non-votes will have no effect on the outcome of voting on the election of directors, the approval of the 2008 Stock Incentive Plan, the amendment to our 1995 Employee Stock Purchase Plan and the ratification of the selection of Ernst & Young LLP but will have the same effect as a vote against the proposed amendment to our Restated Certificate of Incorporation to increase the authorized number of shares of common stock.

How does the board of directors recommend that I vote?

Our board of directors recommends that you vote to elect the three nominees to the board of directors and FOR each of the other proposals.

Will any other business be conducted at the annual meeting?

Our board of directors does not know of any other business to be conducted or matters to be voted upon at the meeting. Under our bylaws, the deadline for stockholders to notify us of any proposals or nominations for director to be presented for action at the annual meeting has passed. If any other matter properly comes before the meeting, the persons named in the proxy card that accompanies this proxy statement will exercise their judgment in deciding how to vote, or otherwise act, at the meeting with respect to that matter.

Who pays for the solicitation of proxies?

We will bear the costs of soliciting proxies. In addition to solicitations by mail, our directors, officers and regular employees, without additional remuneration, may solicit proxies by telephone, facsimile, email, personal interviews and other means. We have requested that brokerage houses, custodians, nominees and fiduciaries forward copies of the proxy materials to the persons for whom they hold shares and request instructions for voting the proxies. We will reimburse the brokerage houses and other persons for their reasonable out-of-pocket expenses in connection with this distribution.

How and when may I submit a proposal for the 2009 annual meeting?

If you are interested in submitting a proposal for inclusion in the proxy statement and the proxy card for our 2009 annual meeting, you need to follow the procedures outlined in Rule 14a-8 of the Securities Exchange Act of 1934. We must receive your proposal intended for inclusion in the proxy statement at our principal executive offices, 167 Sidney Street, Cambridge, Massachusetts 02139, Attention: Secretary, no later than December 31, 2008. SEC rules set standards for the types of stockholder proposals and the information that must be provided by the stockholder making the request.

If you wish to present a proposal at the 2009 annual meeting, but do not wish to have the proposal considered for inclusion in the proxy statement and proxy card or have not complied with the requirements for inclusion of such proposal in our proxy statement under SEC rules, you must also give written notice to us at the address noted above. Our bylaws specify the information that must be included in any such notice, including a brief description of the business to be brought before the annual meeting and the name of the stockholder proposing such business. In accordance with our bylaws, we must receive this notice at least 60 days, but not more than 90 days, prior to the date of the 2009 annual meeting. Notwithstanding the foregoing, if we provide less than 70 days notice or prior public disclosure of the date of the meeting to the stockholders, notice by the stockholders must be received by our Secretary no later than the close of business on the tenth day following the date on which the notice of the meeting was mailed or such public disclosure was made, whichever occurs first. If a stockholder who wished to present a proposal fails to notify us by this date, the proxies that management solicits for that meeting will have discretionary authority to vote on the stockholder's proposal if it is otherwise properly brought before that meeting. If a stockholder makes timely notification, the proxies may still exercise discretionary authority to vote on stockholder proposals under circumstances consistent with the SEC's rules.

Are annual meeting materials householded?

Some banks, brokers and other nominee record holders may be participating in the practice of "householding" proxy statements and annual reports. This means that the brokers and nominee record holders send only one copy of this proxy statement and the accompanying annual report to multiple stockholders in the same household. Upon request, we will promptly deliver separate copies of this proxy statement and our annual report. To make such a request, please call (617) 679-5500 or write to Investor Relations, 167 Sidney Street, Cambridge, Massachusetts 02139 or ir@iderapharma.com. To receive separate copies of our annual report and proxy statement in the future, or to receive only one copy for the household, please contact your bank, broker, or other nominee record holder, or contact us at the above address and phone number.

CORPORATE GOVERNANCE INFORMATION Board of Directors

Our board of directors is responsible for establishing our broad corporate policies and overseeing the management of our company. Our chief executive officer and our other executive officers are responsible for our day-to-day operations. Our board evaluates our corporate performance and approves, among other things, our corporate strategies and objectives, operating plans, major commitments of corporate resources and significant policies. Our board also evaluates and appoints our executive officers.

Our board of directors met nine times during 2007, including regular, special and telephonic meetings. Each director who served as a director during 2007 attended at least 75% of the total number of board meetings held during the period of 2007 during which he or she was a director and the total number of meetings held by all board committees on which he or she served during the period of 2007 during which he or she was a member of such committees.

Our board of directors has established three standing committees — audit, compensation, and nominating and corporate governance — each of which operates under a charter that has been approved by our board of directors. Current copies of the charters for the audit, compensation and nominating and corporate governance committees are posted on our website, www.iderapharma.com, and can be accessed by clicking “Investors” and “Corporate Governance.”

Our board of directors has determined that all of the members of each of the audit, compensation and nominating and corporate governance committees are independent as defined under applicable NASDAQ rules including, in the case of all members of the audit committee, the independence requirements contemplated by Rule 10A-3 under the Securities Exchange Act of 1934.

Our board of directors has adopted corporate governance guidelines to assist our board in the exercise of its duties and responsibilities, which we have posted on our website, www.iderapharma.com, and can be accessed by clicking “Investors” and “Corporate Governance.”

Audit Committee

Our audit committee’s responsibilities include:

- appointing, approving the compensation of, and assessing the independence of our registered public accounting firm;
- overseeing the work of our registered public accounting firm, including through the receipt and consideration of certain reports from such accounting firm;
- reviewing and discussing with management and the registered public accounting firm our annual and quarterly financial statements and related disclosures;
- monitoring our internal control over financial reporting, disclosure controls and procedures and code of business conduct and ethics;
- discussing our risk management policies;
- establishing procedures for the receipt and retention of accounting related complaints and concerns;
- reviewing and approving related party transactions, including transactions with affiliates of directors;
- meeting independently with our registered public accounting firm and management; and
- preparing the audit committee report required by SEC rules that is included in the section of this proxy statement entitled “Report of the Audit Committee.”

The current members of our audit committee are William S. Reardon, C.P.A. (chairman), Hans Mueller, Ph.D. and Alison Taunton-Rigby, Ph.D. Our board of directors has determined that all three current members of the audit

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committee are “audit committee financial experts” as defined in Item 407(d)(5) of Regulation S-K. During 2007, our audit committee held seven meetings in person or by teleconference.

Compensation Committee

Our compensation committee’s responsibilities include:

- annually reviewing and approving corporate goals and objectives relevant to compensation for our chief executive officer;
- determining our chief executive officer’s compensation;
- reviewing and approving, or making recommendations to our board of directors with respect to, the compensation of our senior executives;
- overseeing the evaluation of our other senior executives;
- overseeing and administering our cash and equity incentive plans;
- reviewing and making recommendations to the board of directors with respect to director compensation;
- reviewing and discussing annually with management our “Compensation Discussion and Analysis” required by the SEC’s rules and included in this proxy statement; and
- preparing the compensation committee report required by SEC’s rules, which is included in this proxy statement.

The current members of our compensation committee are James B. Wyngaarden M.D. (chairman), C. Keith Hartley, Dr. Mueller and Dr. Taunton-Rigby. During 2007, the compensation committee held 14 meetings in person or by teleconference.

The processes and procedures followed by our compensation committee in considering and determining director and executive compensation are described below under the headings “Proposal 1 — Election of Directors — Director Compensation” and “Executive Compensation.”

Nominating and Corporate Governance Committee

Our nominating and corporate governance committee’s responsibilities include:

- identifying individuals qualified to become members of our board of directors;
- recommending to our board of directors the persons to be nominated for election as directors or to fill vacancies on our board of directors, and to be appointed to each of the committees of the board of directors;
- reviewing and making recommendations to the board of directors with respect to management succession planning;
- developing and recommending to the board of directors corporate governance principles; and
- overseeing periodic evaluations of the board of directors.

The members of our nominating and corporate governance committee are Mr. Hartley (chairman), Mr. Reardon and Dr. Wyngaarden. During 2007, the nominating and corporate governance committee held four meetings in person or by teleconference.

The processes and procedures followed by our nominating and corporate governance committee in identifying and evaluating director candidates are described below under the heading “Director Nominating Process.”

Director Independence

Under applicable NASDAQ rules, a director will only qualify as an “independent director” if, in the opinion of our board of directors, that person does not have a relationship which would interfere with the exercise of independent judgment in carrying out the responsibilities of a director.

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Our board of directors has determined that none of Mr. Hartley, Dr. Mueller, Mr. Reardon, Dr. Taunton-Rigby or Dr. Wyngaarden has a relationship which would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each of these directors is an "independent director" as defined under Rule 4200(a)(15) of the NASDAQ Stock Market, Inc. Marketplace Rules.

Director Nominating Process

The process followed by our nominating and corporate governance committee to identify and evaluate director candidates includes requests to members of our board of directors and others for recommendations, meetings from time to time to evaluate biographical information and background material relating to potential candidates and interviews of selected candidates by members of our nominating and corporate governance committee and our board of directors. The nominating and corporate governance committee also utilizes a third party recruiting firm to identify and interview potential candidates.

In considering whether to recommend any particular candidate for inclusion in the board's slate of recommended director nominees, the nominating and corporate governance committee will apply the criteria set forth in our corporate governance guidelines. These criteria include the candidate's:

- business acumen,
- knowledge of our business and industry,
- age,
- experience,
- diligence,
- conflicts of interest,
- ability to act in the interests of all stockholders, and
- in the case of the renomination of existing directors, the performance of the director on our board of directors and on any committee of which the director was a member.

Our nominating and corporate governance committee does not assign specific weights to particular criteria and no particular criterion is a prerequisite for any prospective nominee. We believe that the backgrounds and qualifications of our directors, considered as a group, should provide a composite mix of experience, knowledge and abilities that will allow the board of directors to fulfill its responsibilities.

Stockholder Nominees

Stockholders may recommend individuals to the nominating and corporate governance committee for consideration as potential director candidates by submitting the individuals' names, together with appropriate biographical information and background materials and a statement as to whether the stockholder or group of stockholders making the recommendation has beneficially owned more than 5% of our common stock for at least one year as of the date such recommendation is made, to Nominating and Corporate Governance Committee, c/o Secretary, Idera Pharmaceuticals, Inc., 167 Sidney Street, Cambridge, Massachusetts 02139. Assuming that appropriate biographical and background material has been provided on a timely basis, the nominating and corporate governance committee will evaluate stockholder-recommended candidates by following substantially the same process, and applying substantially the same criteria, as it follows for candidates submitted by others. If the board of directors determines to nominate a stockholder-recommended candidate and recommends his or her election, then his or her name will be included in our proxy card for the next annual meeting.

Stockholders also have the right under our bylaws to nominate director candidates directly, without any action or recommendation on the part of the nominating and corporate governance committee or the board of directors, by following the procedures set forth under "Information about the annual meeting — How and when may I submit a proposal for the 2009 annual meeting?" above. Candidates nominated by stockholders in accordance with the procedures set forth in our bylaws will not be included in our proxy card for the next annual meeting.

Communicating with our Board of Directors

Our board of directors will give appropriate attention to written communications that are submitted by stockholders and will respond if and as appropriate. The chairman of the board of directors is primarily responsible for monitoring communications from stockholders and for providing copies or summaries to the other directors, as he or she considers appropriate.

Communications are forwarded to all directors if they relate to important substantive matters and include suggestions or comments that the chairman of the board of directors considers to be important for the directors to know. In general, communications relating to corporate governance and long-term corporate strategy are more likely to be forwarded than communications relating to ordinary business affairs, personal grievances and matters as to which we tend to receive repetitive or duplicative communications.

Stockholders who wish to send communications on any topic to the board of directors should address such communications to Board of Directors, c/o Secretary, Idera Pharmaceuticals, Inc., 167 Sidney Street, Cambridge, Massachusetts 02139.

Each communication from a stockholder should include the following information in order to permit stockholder status to be confirmed and to provide an address to forward a response if deemed appropriate:

- the name, mailing address and telephone number of the stockholder sending the communication;
- the number of shares held by the stockholder; and
- if the stockholder is not a record owner of our securities, the name of the record owner of our securities beneficially owned by the stockholder.

Director Attendance at Annual Meeting of Stockholders

Directors are expected to attend the annual meeting of stockholders. All directors attended the 2007 annual meeting of stockholders.

Compensation Committee Interlocks and Insider Participation

Our compensation committee currently consists of Dr. Wyngaarden, Mr. Hartley, Dr. Mueller and Dr. Taunton-Rigby. Mr. Reardon was a member of the compensation committee from January 2007 to December 2007. No member of our compensation committee was at any time during 2007, or was formerly, an officer or employee of ours. No member of our compensation committee engaged in any related person transaction involving our company. None of our executive officers has served as a director or member of the compensation committee (or other committee serving the same function as the compensation committee) of any other entity, while an executive officer of that other entity served as a member of our compensation committee.

PROPOSAL 1 — ELECTION OF DIRECTORS General Information

Our board of directors is divided into three classes and currently consists of three Class I directors, C. Keith Hartley, Hans Mueller, Ph.D. and William S. Reardon, C.P.A., two Class II directors, Robert W. Karr, M.D. and James B. Wyngaarden, M.D., and three Class III directors, Sudhir Agrawal, D. Phil., Youssef El Zein and Alison Taunton-Rigby, Ph.D. The terms of the three classes are staggered so that one class is elected each year. Members of each class are elected for three-year terms. The Class I, Class II and Class III directors were elected to serve until the annual meeting of stockholders to be held in 2008, 2009 and 2010, respectively, and until their respective successors are elected and qualified.

Our board of directors, on the recommendation of our nominating and corporate governance committee, has nominated Messrs. Hartley and Reardon and Dr. Mueller for election as Class I directors. The persons named in the enclosed proxy card will vote to elect Messrs. Hartley and Reardon and Dr. Mueller as Class I directors unless you withhold authority to vote for the election of any or all nominees by marking the proxy to that effect. The proxy card may not be voted for more than three directors. Each Class I director will be elected to hold office until the 2011 annual meeting of stockholders and until his successor is elected and qualified. Each of the nominees is presently a director, and each has indicated a willingness to serve as a director, if elected. If a nominee becomes unable or unwilling to serve, however, the persons acting under the proxy may vote for substitute nominees selected by the board of directors.

Information about our Directors

Set forth below are the names of each of the nominees for election as Class I directors, each Class II director and each Class III director, the year in which each first became a director, their ages as of March 31, 2008, their positions and offices with our company, their principal occupations and business experience during at least the past five years and the names of other public companies for which they serve as a director.

Our board of directors recommends that you vote FOR the election of C. Keith Hartley, Hans Mueller and William S. Reardon as Class I directors.

Nominees for Class I Directors — Terms to Expire in 2011

C. Keith Hartley **Director since 2000**

Mr. Hartley, age 65, has been President of Hartley Capital Advisors, a financial consulting firm, since June 2000. Mr. Hartley was Managing Partner of Forum Capital Markets LLC, an investment banking firm, from August 1995 to May 2000. Mr. Hartley also serves as a director of Universal Display Corporation, a developer of flat panel displays.

Hans Mueller, Ph.D. **Director since 2007**

Dr. Mueller, age 67, most recently served as Senior Vice President of Global Business Development at Wyeth Pharmaceuticals, a pharmaceutical company, from 1993 to 2004. Upon his retirement in 2004, Dr. Mueller began consulting for a number of private life science companies. From 1985 to 1993, Dr. Mueller served as Executive Vice President, President and Chief Executive Officer of Nova Pharmaceutical Corporation (now part of Scios, Inc.), a drug research and development company. Previously, he held roles with increasing levels of responsibility at Sandoz, now part of Novartis AG, a pharmaceutical company, in the areas of research, regulatory affairs, manufacturing, systems development, new product planning, licensing and business development.

William S. Reardon, C.P.A. **Director since 2002**

Mr. Reardon, age 61, was an audit partner at PricewaterhouseCoopers LLP, where he led the Life Science Industry Practice for New England and the Eastern United States from 1986 until his retirement from the firm in July 2002. Mr. Reardon served on the Board of the Emerging Companies Section of the Biotechnology Industry Organization from June 1998 to June 2000 and the board of directors of the Massachusetts Biotechnology Council

from April 2000 to April 2002. He also serves as a director of Oscient Pharmaceuticals Corporation (formerly Genome Therapeutics Corp.), a pharmaceutical company, and Synta Pharmaceuticals, Inc., a biopharmaceutical company.

Continuing Members of the Board of Directors

Class II Directors — Terms to Expire in 2009

Robert W. Karr, M.D.

Director since 2005

Dr. Karr, age 59, is an independent consultant to biotechnology companies. Dr. Karr served as our President from December 2005 until December 2007. Prior to joining us, Dr. Karr was an independent consultant and, from June 2000 through December 2004, Dr. Karr was a senior executive for Global Research & Development for Pfizer, Inc., a pharmaceutical company, where he served as Senior Vice President, Strategic Management from 2003 to 2004 and Vice President of Strategic Management from 2000 to 2003. Prior to its merger with Pfizer, Dr. Karr served as Vice President, Research & Development Strategy for Warner-Lambert Company, a pharmaceutical company. He also serves on the board of directors of GTx, Inc., a biotechnology company.

James B. Wyngaarden, M.D.

Director since 1990

Dr. Wyngaarden, age 83, has been Chairman of our board of directors since February 2000 and was Vice Chairman from February 1997 to February 2000. Dr. Wyngaarden co-founded the Washington Advisory Group LLC, a consulting firm, in 1996 and remained a principal until January 2002. He was Senior Associate Dean, International Affairs at the University of Pennsylvania Medical School from 1995 to 1997. Dr. Wyngaarden was Foreign Secretary of the National Academy of Sciences and the Institute of Medicine from 1990 to 1994. He was Director of the Human Genome Organization from 1990 to 1991 and a council member from 1990 to 1993. Dr. Wyngaarden was Director of the National Institutes of Health from 1982 to 1989, and Associate Director for Life Sciences, Office of Science and Technology Policy in the Executive Office of the President, the White House, from 1989 to 1990. He is also a member of the board of directors of Geniera Corporation, a biopharmaceutical company.

Class III Directors — Terms to Expire in 2010

Sudhir Agrawal, D. Phil.

Director since 1990

Dr. Agrawal, age 54, is our Chief Executive Officer and Chief Scientific Officer. He joined us in 1990 and has served as our Chief Scientific Officer since January 1993, our Senior Vice President of Discovery since March 1994, our President from February 2000 to October 2005, a director since March 1993 and our Chief Executive Officer since August 2004. Prior to his appointment as Chief Scientific Officer, he served as our Principal Research Scientist from February 1990 to January 1993 and as our Vice President of Discovery from December 1991 to January 1993. He served as Acting Chief Executive Officer from February 2000 until September 2001. Prior to joining us, Dr. Agrawal served as a Foundation Scholar at the Worcester Foundation for Experimental Biology from 1987 through 1991 and at the Medical Research Council's Laboratory of Molecular Biology in Cambridge, England from 1985 to 1986.

Youssef El Zein

Director since 1992

Mr. El Zein, age 59, has been Vice Chairman of our board of directors since February 1997. Mr. El Zein has been managing partner of Pillar Investment Limited, a private investment firm, since 1991. Mr. El Zein is also Director of Optima Life Sciences Limited, an investment company that owns shares in Idera. Mr. El Zein is also a managing partner of Search Dynamics Corporation and Optima Strategic Corporation, two special purpose vehicles founded by Pillar that invest in early stage technology-based companies.

Alison Taunton-Rigby, Ph.D.

Director since 2004

Dr. Taunton-Rigby, age 63, has been Chief Executive Officer and Director of RiboNovix, Inc., a privately held development stage biotechnology company she co-founded, since February 2003. Prior to founding RiboNovix, Dr. Taunton-Rigby was Chief Executive Officer of CMT, Inc., a healthcare technology company, from 2001 to 2003. Previously, Dr. Taunton-Rigby was President and Chief Executive Officer of Aquila Biopharmaceuticals,

Inc., a life sciences company, President and Chief Executive Officer of Cambridge Biotech Corporation, a life sciences company, and President and Chief Executive Officer of Mitotix, Inc., a biopharmaceutical company, Senior Vice President, Biotherapeutics at Genzyme Corporation, and held senior management positions at Biogen, Inc. (now Biogen Idec), Vivotech Inc., Collaborative Research, Inc. and Arthur D. Little. Dr. Taunton-Rigby is also a director of Healthways, Inc., Abt Associates, and Riversource Funds.

Director Compensation

We use a combination of cash and equity-based compensation to attract and retain candidates to serve on our board of directors. We do not compensate directors who are also our employees for their service on our board of directors. As a result, Dr. Agrawal, our chief executive officer and chief scientific officer does not receive any compensation for his service on our board of directors. Additionally, Dr. Karr, our president until December 2007, did not receive any compensation for his service on our board of directors in 2007. We periodically review our cash and equity-based compensation for non-employee directors.

As part of that process, in 2007, the compensation committee engaged Radford Surveys + Consulting, a compensation consultant, to assist in a review of the compensation program for non-employee directors. Radford Surveys + Consulting reviewed trends in director compensation with respect to both cash fees and equity and compared our program to the compensation programs of comparable life sciences companies. As a result of its review of the compensation program, in December 2007, the compensation committee recommended, and our board of directors approved, changes to the director compensation program, effective as of January 2008.

2007 Director Compensation

Cash Fees

We pay our non-employee directors annual retainers in cash. For 2007, the chairman of our board received an annual retainer of \$60,000, which was paid in monthly installments, and the chairman of our audit committee received an annual retainer of \$15,000, which was paid in quarterly installments. All other non-employee directors received an annual retainer of \$10,000, which was paid in quarterly installments.

During 2007, we also paid members of the board of directors who were not employees \$1,250 for personal attendance and \$500 for telephonic attendance at board of directors and committee meetings. No additional compensation was paid for committee meetings held in conjunction with board meetings.

Directors were also reimbursed for their expenses incurred in connection with their attendance at board of directors and committee meetings.

We had a policy under which non-employee directors were entitled to elect to receive meeting fees in the form of common stock in lieu of cash. During 2007, the number of shares of common stock issued to directors electing to receive common stock under this program was determined on a quarterly basis by dividing the fees for meetings attended in the quarter to be issued in common stock by 85% of the closing price of our common stock on the first business day of the quarter following the quarter in which the fees were earned. In connection with this policy, directors elected to receive common stock in lieu of cash for board of director and committee meeting fees earned during 2007 as follows:

Director	Shares of Common Stock	Cash Fees Foregone	Value of Stock Received(1)
William S. Reardon	1,291	\$ 9,500	\$ 11,182
James B. Wyngaarden, M.D.	1,456	\$ 11,250	\$ 13,233

(1) Equals the number of shares of common stock issued to the director times the closing price of our common stock on the date the shares were issued.

Equity Compensation

During 2007, we granted each non-employee director options to purchase 3,125 shares of our common stock upon his or her initial election to the board of directors and options to purchase 1,250 shares of common stock on the

first day of each calendar quarter. We granted initial options and options to purchase 469 shares of the quarterly awards under the 1995 Director Stock Option Plan. We made the remainder of the quarterly awards under our 1997 Stock Incentive Plan or our 2005 Stock Incentive Plan. All of these options were granted with exercise prices equal to the fair value of our common stock, which is the closing price of our common stock, on the date of grant and vest in full on the first anniversary of the date of grant, provided that the option holder continues to serve as a director on such date. These options will become immediately exercisable in full if there is a change in control of our company.

The following table sets forth a summary of the compensation we paid to our non-employee directors for service on our board in 2007.

DIRECTOR COMPENSATION TABLE FOR 2007

Name	Fees Earned or Paid in Cash (S)	Option Awards (S)(1)	All Other Compensation (S)(2)	Total (S)
Youssef El Zein	\$ 17,500	\$18,502	—	\$36,002
James B. Wyngaarden, M.D.	\$ 73,750(3)	\$18,502	\$ 1,983	\$94,235
C. Keith Hartley	\$ 24,250	\$18,502	—	\$42,752
Hans Mueller, Ph.D.(4)	\$ 7,250	\$ 5,890	—	\$13,140
William S. Reardon	\$ 31,500(3)	\$18,502	\$ 1,682	\$51,684
Alison Taunton-Rigby, Ph.D.	\$ 26,000	\$18,502	—	\$44,502

- (1) The amount shown represents the amount of compensation cost that we recognized for financial statement reporting purposes for fiscal 2007 for all options held by each of the non-employee directors as computed in accordance with SFAS No. 123R utilizing the modified prospective transition method. In accordance with SFAS No. 123R, the fair value of each stock option is determined on the date of grant using the Black-Scholes option pricing model. This value is then amortized ratably over the vesting period. See Note 2(k) of the financial statements in our annual report on Form 10-K for the year ended December 31, 2007 regarding assumptions we made in determining the SFAS No. 123R value of equity awards. The grant date fair value, computed in accordance with SFAS No. 123R, of stock options granted to each of our non-employee directors in 2007 was \$22,876 except that in the case of Dr. Mueller it was \$22,643. As of December 31, 2007, our non-employee directors held options to purchase shares of our common stock as follows: Mr. Hartley: 21,877; Dr. Mueller: 4,375; Mr. Reardon: 20,627; Dr. Taunton-Rigby: 17,813; Dr. Wyngaarden: 82,877; Mr. El Zein: 20,502.
- (2) Represents the difference between the value of our common stock received by the director pursuant to his election to forgo cash meeting fees and the amount of the cash meeting fees foregone with respect to such common stock. See "Director Compensation — 2007 Director Compensation — Cash Fees" above for further information about the cash fees foregone.
- (3) Includes cash meeting fees foregone at the election of the director of \$11,250 in the case of Dr. Wyngaarden and \$9,500 in the case of Mr. Reardon. In lieu of such fees, the director elected to receive shares of our common stock.
- (4) Dr. Mueller joined our board of directors in September 2007.

2008 Director Compensation

Under our new director compensation program, effective as of January 1, 2008, cash fees for our non-employee directors are as follows:

	Member Annual Fee	Chairman Annual Fee
Board of Directors	\$ 35,000	\$ 60,000
Audit Committee	\$ 7,000	\$ 15,000
Compensation Committee	\$ 5,000	\$ 10,000
Nomination and Corporate Governance Committee	\$ 3,500	\$ 7,500

These fees are payable quarterly in arrears. As part of the changes to our director compensation program, our board of directors eliminated meeting fees. Additionally, in conjunction with our new director compensation program, our board adopted a new stock-for-fees policy. Under this policy, directors have the right to elect to receive common stock in lieu of cash fees. The number of shares to be issued to participating directors is determined on a quarterly basis by dividing the cash fees to be issued in common stock by the fair market value of our common stock, which is the closing price of our common stock, on the first business day of the quarter following the quarter in which the fees were earned.

Under our new director compensation program, upon their initial election to the board of directors, new non-employee directors will receive an option grant for 16,000 shares and all non-employee directors receive an annual option grant for 10,000 shares. The annual grants are made on the date of the annual meeting of stockholders. These options will vest quarterly over three years from the date of grant, subject to continued service as a director and will be granted under our 2005 Stock Incentive Plan or, if it is approved by our stockholders as described below under proposal three, our 2008 Stock Incentive Plan. These options will be granted with exercise prices equal to the fair market value of our common stock, which is the closing price of our common stock, on the date of grant and become immediately exercisable in full if there is a change in control of our company.

Effective January 2, 2008, our board of directors also granted all currently serving non-employee directors an option to purchase 16,000 shares of our common stock at an exercise price equal to the closing price of our common stock on January 2, 2008, which was \$13.28. These options vest quarterly over three years from the date of grant, subject to continued service as a director and become immediately exercisable in full if there is a change in control of our company.

PROPOSAL 2 — INCREASE IN THE NUMBER OF AUTHORIZED SHARES OF COMMON STOCK

In March 2008, our board of directors voted to recommend to the stockholders that they approve an amendment to our Restated Certificate of Incorporation to increase the number of authorized shares of Common Stock from 40,000,000 shares to 70,000,000 shares. A copy of the Certificate of Amendment to the Restated Certificate of Incorporation is attached to this proxy statement as *Exhibit A*. As of March 31, 2008, we had authorized, outstanding or reserved for issuance the following shares of Common Stock:

- 22,270,797 shares of Common Stock outstanding;
- 1,926 shares Common Stock reserved for issuance upon conversion of our Series A Convertible Preferred Stock;
- 855,901 shares of Common Stock reserved for issuance upon exercise of outstanding warrants;
- 3,212,239 shares of Common Stock reserved for issuance upon exercise of outstanding stock options; and
- 884,303 shares of Common Stock reserved for future issuance under our 2005 Stock Incentive Plan, our 1995 Directors Option Plan and our 1995 Employee Stock Purchase Plan.

Our board of directors believes that the authorization of the additional shares of Common Stock is necessary to provide us with the flexibility to issue shares of Common Stock in connection with possible future financings, joint ventures, acquisitions, stock incentive plans and other general corporate purposes. For instance, in this proxy statement, we are seeking stockholder approval for our 2008 Stock Incentive Plan and an increase to the number of shares of Common Stock authorized for issuance under our 1995 Employee Stock Purchase Plan.

We do not currently have any plans, understandings, arrangements, commitments or agreements, written or oral, for the issuance of the additional shares of Common Stock that would be authorized if this proposal is approved. If this proposal to amend our Restated Certificate of Incorporation to increase the number of authorized shares of Common Stock is adopted by the stockholders, our board of directors will have authority to issue these additional shares of Common Stock without the necessity of further stockholder action. Holders of the Common Stock have no preemptive rights with respect to any shares that may be issued in the future.

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If this proposal is approved, we intend to file an amendment to the Restated Certificate of Incorporation promptly following the annual meeting reflecting the approved increase in the number of authorized shares of Common Stock.

Under Delaware law, stockholders are not entitled to dissenter's rights with respect to the proposed amendment to our Restated Certificate of Incorporation.

Our board of directors believes that approval of the amendment to the Restated Certificate of Incorporation is in the best interests of our company and our stockholders and therefore recommends that stockholders vote FOR the approval of the amendment.

PROPOSAL 3 — APPROVAL OF 2008 STOCK INCENTIVE PLAN

On March 18, 2008, our board of directors adopted, subject to stockholder approval, the 2008 Stock Incentive Plan, or the 2008 Plan. Up to 3,700,000 shares of Common Stock (subject to adjustment in the event of stock splits and other similar events) may be issued pursuant to awards granted under the 2008 Plan.

The 2008 Plan is intended to replace our 2005 Stock Incentive Plan (the "2005 Plan"). As of March 31, 2008, options to purchase 1,683,240 shares of Common Stock were outstanding under the 2005 Plan and an additional 804,407 shares were reserved for future stock awards. If the 2008 Plan is approved, all then outstanding options under the 2005 Plan will remain in effect, but no additional option grants may be made under the 2005 Plan. As a result, if our stockholders approve the 2008 Stock Incentive Plan, we will have a total of 3,700,000 shares of Common Stock available for future issuance under equity compensation awards.

The board of directors believes that our future success depends, in large part, upon our ability to maintain a competitive position in attracting, retaining and motivating key personnel. **Accordingly, the board of directors believes adoption of the 2008 Plan is in the best interests of our company and our stockholders and recommends that stockholders vote FOR the approval of the 2008 Plan.**

Description of the 2008 Plan

The following is a brief summary of the 2008 Plan, a copy of which is attached as *Exhibit B* to this Proxy Statement.

Types of Awards

The 2008 Plan provides for the grant of incentive stock options intended to qualify under Section 422 of the Internal Revenue Code of 1986, as amended (the "Code"), non-statutory stock options, stock appreciation rights, restricted stock, restricted stock units and other stock-based awards as described below, which are collectively referred to as awards.

Incentive Stock Options and Non-statutory Stock Options. Optionees receive the right to purchase a specified number of shares of Common Stock at a specified option price and subject to such other terms and conditions as are specified in connection with the option grant. Options may be granted at an exercise price equal to or greater than the fair market value of the Common Stock on the date of grant. Under present law, however, incentive stock options and options intended to qualify as performance-based compensation under Section 162(m) of the Code may not be granted at an exercise price less than 100% of the fair market value of the Common Stock on the date of grant (or less than 110% of the fair market value in the case of incentive stock options granted to optionees holding more than 10% of the voting power of our company). Options may not be granted for a term in excess of ten years. The 2008 Plan permits the following forms of payment of the exercise price of options:

- payment by cash, check, wire transfer or in connection with a "cashless exercise" through a broker,
- subject to certain conditions, surrender to us of shares of Common Stock,
- subject to certain conditions, delivery to us of a promissory note,
- any other lawful means, or

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- any combination of these forms of payment.

Stock Appreciation Rights. A Stock Appreciation Right, or SAR, is an award entitling the holder, upon exercise, to receive an amount in Common Stock or cash or a combination thereof determined by reference to appreciation, from and after the date of grant, in the fair market value of a share of Common Stock. SARs may be granted independently or in tandem with an option.

Restricted Stock Awards. Restricted Stock awards entitle recipients to acquire shares of Common Stock, subject to our right to repurchase all or part of such shares from the recipient in the event that the conditions specified in the applicable award are not satisfied prior to the end of the applicable restriction period established for such award.

Restricted Stock Unit Awards. Restricted Stock Unit awards entitle the recipient to receive shares of Common Stock to be delivered at the time such shares vest pursuant to the terms and conditions established by the board of directors.

Other Stock-Based Awards. Under the 2008 Plan, the board of directors has the right to grant other awards based upon the Common Stock having such terms and conditions as the board of directors may determine, including the grant of shares based upon certain conditions, the grant of awards that are valued in whole or in part by reference to, or otherwise based on, shares of Common Stock, and the grant of awards entitling recipients to receive shares of Common Stock to be delivered in the future.

Performance Conditions. The compensation committee may determine, at the time of grant, that a Restricted Stock award, Restricted Stock Unit award or Other Stock-Based award granted to an officer will vest solely upon the achievement of specified performance criteria designed to qualify for deduction under Section 162(m) of the Code. The performance criteria for each such award will be based on one or more of the following measures: (a) earnings per share, (b) return on average equity or average assets with respect to a pre-determined peer group, (c) earnings, (d) earnings growth, (e) revenues, (f) expenses, (g) stock price, (h) market share, (i) return on sales, assets, equity or investment, (j) regulatory compliance, (k) achievement of balance sheet or income statement objectives, (l) total shareholder return, (m) net operating profit after tax, (n) pre-tax or after-tax income, (o) cash flow, (p) achievement of research, development, clinical or regulatory milestones, (q) product sales and (r) business development activities, and may be absolute in their terms or measured against or in relationship to other companies comparably, similarly or otherwise situated. These performance measures may be absolute in their terms or measured against or in relationship to other companies comparably, similarly or otherwise situated. Such performance goals may be adjusted to exclude any one or more of (i) extraordinary items, (ii) gains or losses on the dispositions of discontinued operations, (iii) the cumulative effects of changes in accounting principles, (iv) the write-down of any asset, and (v) charges for restructuring and rationalization programs. Such performance goals: (i) may vary by Participant and may be different for different awards; (ii) may be particular to a Participant or the department, branch, line of business, subsidiary or other unit in which the Participant works and may cover such period as may be specified by the compensation committee; and (iii) will be set by the compensation committee within the time period prescribed by, and will otherwise comply with the requirements of, Section 162(m).

We believe that disclosure of any further details concerning the performance measures for any particular year may be confidential commercial or business information, the disclosure of which would adversely affect our company.

Transferability of Awards

Except as the board of directors may otherwise determine or provide in an award, awards may not be sold, assigned, transferred, pledged or otherwise encumbered by the person to whom they are granted, either voluntarily or by operation of law, except by will or the laws of descent and distribution or, other than in the case of an incentive stock option, pursuant to a qualified domestic relations order. During the life of the Participant, awards are exercisable only by the Participant.

Eligibility to Receive Awards

Employees, officers, directors, consultants and advisors of our company and its subsidiaries are eligible to be granted awards under the 2008 Plan. Under present law, however, incentive stock options may only be granted to our employees and employees of our subsidiaries.

The maximum number of shares with respect to which awards may be granted to any participant under the 2008 Plan may not exceed 500,000 shares per calendar year. For purposes of this limit, the combination of an option in tandem with SAR is treated as a single award.

Share Counting

An aggregate of 3,700,000 shares are reserved for issuance under the 2008 Plan (subject to adjustments for stock splits and the like). Any award that is not a "full-value award" is counted against the aggregate share limit as one share for each share of Common Stock subject to such award and any award that is a "full-value award" is counted against the aggregate share limit as 1.57 shares for each one share of Common Stock subject to such full-value award. "Full-value award" means any restricted stock award or other stock-based award with a per share price or per unit purchase price lower than 100% of fair market value on the date of grant.

For purposes of counting the number of shares available for the grant of awards under the 2008 Plan:

- all shares of Common Stock covered by independent SARs will be counted against the number of shares available for the grant of awards, except with respect to independent SARs that may be settled in cash only;
- if any award (i) expires or is terminated, surrendered or canceled without having been fully exercised or is forfeited in whole or in part (including as the result of shares of Common Stock subject to the award being repurchased by us at the original issuance price pursuant to a contractual repurchase right) or (ii) results in any shares of Common Stock not being issued (including as a result of an independent SAR that was settleable either in cash or in stock actually being settled in cash), the unused shares of Common Stock covered by the award will again be available for the future grant of awards, except that share counting with respect to incentive stock options will be subject to any limitations under the Code and with respect to independent SARs the full number of shares subject to any stock-settled SAR will be counted against the shares available under the 2008 Plan regardless of the number of shares actually used to settle the SAR upon exercise;
- shares of Common Stock tendered to us by a participant in the 2008 Plan to purchase shares of Common Stock upon the exercise of an award or to satisfy tax withholding obligations, including shares retained from the award creating the tax obligation, will not be added back to the number of shares available for the future grant of awards;
- to the extent a share that was subject to an award that counted as one share is returned each applicable share reserve will be credited with one share and to the extent that a share that was subject to an award that counts as 1.57 shares is returned to the 2008 Plan, each applicable share reserve will be credited with 1.57 shares; and
- shares of Common Stock repurchased by us on the open market using the proceeds from the exercise of an award will not increase the number of shares available for future award grants.

Plan Benefits

As of March 31, 2008, approximately 45 persons were eligible to receive awards under the 2008 Plan, including our four executive officers and seven non-employee directors. The granting of awards under the 2008 Plan is discretionary, and we cannot now determine the number or type of awards to be granted in the future to any particular person or group.

On March 31, 2008, the last reported sale price of our Common Stock on the NASDAQ Global Market was \$10.01.

Administration

The 2008 Plan is administered by the board of directors. The board of directors has the authority to adopt, amend and repeal the administrative rules, guidelines and practices relating to the 2008 Plan and to interpret the provisions of the 2008 Plan. Pursuant to the terms of the 2008 Plan, the board of directors may delegate authority under the 2008 Plan to one or more committees or subcommittees of the board of directors. The board of directors has authorized the compensation committee to administer certain aspects of the 2008 Plan, including the granting of options to executive officers.

Subject to any applicable limitations contained in the 2008 Plan, the board of directors, the compensation committee, or any other committee to whom the board of directors delegates authority, as the case may be, selects the recipients of awards and determines

- the number of shares of Common Stock covered by options and the dates upon which such options become exercisable,
- the exercise price of options,
- the duration of options (which may not exceed 10 years), and
- the number of shares of Common Stock subject to any SAR, restricted stock award, restricted stock unit award or other stock-based awards and the terms and conditions of such awards, including conditions for repurchase, issue price and repurchase price.

The board of directors is required to make appropriate adjustments in connection with the 2008 Plan and any outstanding awards to reflect stock splits, stock dividends, recapitalizations, spin-offs and other similar changes in capitalization. The 2008 Plan also contains provisions addressing the consequences of any reorganization event, which is defined as:

- any merger or consolidation of our company with or into another entity as a result of which all of our Common Stock is converted into or exchanged for the right to receive cash, securities or other property, or is cancelled; or
- any exchange of all of our Common Stock for cash, securities or other property pursuant to a share exchange transaction; or
- any liquidation or dissolution of our company.

In connection with a reorganization event, the board of directors or the compensation committee will take any one or more of the following actions as to all or any outstanding awards on such terms as the board or the committee determines:

- provide that awards will be assumed, or substantially equivalent awards will be substituted, by the acquiring or succeeding corporation (or an affiliate thereof);
- upon written notice, provide that all unexercised options or other unexercised awards will terminate immediately prior to the consummation of such reorganization event unless exercised within a specified period following the date of such notice;
- provide that outstanding awards will become exercisable, realizable or deliverable, or restrictions applicable to an award will lapse, in whole or in part prior to or upon such reorganization event;
- in the event of a reorganization event under the terms of which holders of Common Stock will receive upon consummation thereof a cash payment for each share surrendered in the reorganization event (the "acquisition price"), make or provide for a cash payment to an award holder equal to (A) the acquisition price times the number of shares of Common Stock subject to the holder's awards (to the extent the exercise price does not exceed the acquisition price) minus (B) the aggregate exercise price of all the holder's outstanding awards, in exchange for the termination of such awards;
- provide that, in connection with a liquidation or dissolution of our company, awards will convert into the right to receive liquidation proceeds (if applicable, net of the exercise price thereof); and

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- any combination of the foregoing.

The board of directors or the compensation committee may at any time provide that any award will become immediately exercisable in full or in part, free of some or all restrictions or conditions, or otherwise realizable in full or in part, as the case may be.

If any award expires or is terminated, surrendered, canceled or forfeited, the unused shares of Common Stock covered by such award will again be available for grant under the 2008 Plan, subject, however, in the case of incentive stock options, to any limitations under the Code.

Substitute Options

In connection with a merger or consolidation of an entity with our Company or the acquisition by us of property or stock of an entity, the board of directors may grant options in substitution for any options or other stock or stock-based awards granted by such entity or an affiliate thereof. Substitute options may be granted on such terms as the board of directors deems appropriate in the circumstances, notwithstanding any limitations on options contained in the 2008 Plan. Substitute options will not count against the 2008 Plan's overall share limit, except as may be required by the Code.

No Repricings without Stockholder Approval

Other than in connection with a stock split or similar change in the number of outstanding shares, the 2008 Plan prohibits the repricing of stock options and stock appreciation rights without the approval of stockholders.

Amendment or Termination

No award may be made under the 2008 Plan after March 17, 2018 but awards previously granted may extend beyond that date. The board of directors may at any time amend, suspend or terminate the 2008 Plan; provided that, to the extent determined by the Board, no amendment requiring stockholder approval under any applicable legal, regulatory or listing requirement will become effective until such stockholder approval is obtained. No award will be made that is conditioned upon stockholder approval of any amendment to the Plan.

If Stockholders do not approve the adoption of the 2008 Plan, the 2008 Plan will not go into effect, and we will not grant any awards under the 2008 Plan. In such event, the board of directors will consider whether to adopt alternative arrangements based on its assessment of our needs.

Federal Income Tax Consequences

The following is a general summary of the United States federal income tax consequences that generally will arise with respect to awards granted under the 2008 Plan. This summary is based on the federal tax laws in effect as of the date of this proxy statement. In addition, this summary assumes that all awards are exempt from, or comply with, the rules under Section 409A of the Code regarding nonqualified deferred compensation. The plan provides that no award will provide for deferral of compensation that does not comply with Section 409A of the Code, unless the board of directors, at the time of grant, specifically provides that the award is not intended to comply with Section 409A. Changes to these laws could alter the tax consequences described below.

Incentive Stock Options

A participant will not have income upon the grant of an incentive stock option. Also, except as described below, a participant will not have income upon exercise of an incentive stock option if the participant has been employed by us or our corporate parent or 50% or more-owned corporate subsidiary at all times beginning with the option grant date and ending three months before the date the participant exercises the option. If the participant has not been so employed during that time, then the participant will be taxed as described below under "Non-statutory Stock Options." The exercise of an incentive stock option may subject the participant to the alternative minimum tax.

A participant will have income upon the sale of the stock acquired under an incentive stock option at a profit (if sales proceeds exceed the exercise price). The type of income will depend on when the participant sells the stock. If a participant sells the stock more than two years after the option was granted and more than one year after the option was exercised, then all of the profit will be long-term capital gain. If a participant sells the stock prior to satisfying these waiting periods, then the participant will have engaged in a disqualifying disposition and a portion of the profit

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will be ordinary income and a portion may be capital gain. This capital gain will be long-term if the participant has held the stock for more than one year and otherwise will be short-term. If a participant sells the stock at a loss (sales proceeds are less than the exercise price), then the loss will be a capital loss. This capital loss will be long-term if the participant held the stock for more than one year and otherwise will be short-term.

Non-statutory Stock Options

A participant will not have income upon the grant of a non-statutory stock option. A participant will have compensation income upon the exercise of a non-statutory stock option equal to the value of the stock on the day the participant exercised the option less the exercise price. Upon sale of the stock, the participant will have capital gain or loss equal to the difference between the sales proceeds and the value of the stock on the day the option was exercised. This capital gain or loss will be long-term if the participant has held the stock for more than one year and otherwise will be short-term.

Stock Appreciation Rights

A participant will not have income upon the grant of a stock appreciation right. A participant generally will recognize compensation income upon the exercise of an SAR equal to the amount of the cash and the fair market value of any stock received. Upon the sale of the stock, the participant will have capital gain or loss equal to the difference between the sales proceeds and the value of the stock on the day the SAR was exercised. This capital gain or loss will be long-term if the participant held the stock for more than one year and otherwise will be short-term.

Restricted Stock Awards

A participant will not have income upon the grant of restricted stock unless an election under Section 83(b) of the Code is made within 30 days of the date of grant. If a timely 83(b) election is made, then a participant will have compensation income equal to the value of the stock less the purchase price. When the stock is sold, the participant will have capital gain or loss equal to the difference between the sales proceeds and the value of the stock on the date of grant. If the participant does not make an 83(b) election, then when the stock vests the participant will have compensation income equal to the value of the stock on the vesting date less the purchase price. When the stock is sold, the participant will have capital gain or loss equal to the sales proceeds less the value of the stock on the vesting date. Any capital gain or loss will be long-term if the participant held the stock for more than one year and otherwise will be short-term.

Restricted Stock Units

A participant will not have income upon the grant of a restricted stock unit. A participant is not permitted to make a Section 83(b) election with respect to a restricted stock unit award. When the restricted stock unit vests, the participant will have income on the vesting date in an amount equal to the fair market value of the stock on the vesting date less the purchase price, if any. When the stock is sold, the participant will have capital gain or loss equal to the sales proceeds less the value of the stock on the vesting date. Any capital gain or loss will be long-term if the participant held the stock for more than one year and otherwise will be short-term.

Other Stock-Based Awards

The tax consequences associated with any other stock-based award granted under the 2008 Plan will vary depending on the specific terms of such award. Among the relevant factors are whether or not the award has a readily ascertainable fair market value, whether or not the award is subject to forfeiture provisions or restrictions on transfer, the nature of the property to be received by the participant under the award and the participant's holding period and tax basis for the award or underlying Common Stock.

Tax Consequences to Us

There will be no tax consequences to our company except that we will be entitled to a deduction when a participant has compensation income. Any such deduction will be subject to the limitations of Section 162(m) of the Code.

PROPOSAL 4 — INCREASE IN THE NUMBER OF SHARES AUTHORIZED FOR ISSUANCE UNDER THE 1995 EMPLOYEE STOCK PURCHASE PLAN

On March 18, 2008, our board of directors voted to amend the 1995 Employee Stock Purchase Plan, which we refer to as the ESPP, to increase the number of shares of Common Stock available for issuance from 125,000 shares to 250,000 shares, subject to stockholder approval. The ESPP allows our employees to purchase shares of our Common Stock at a discount from market price through payroll deductions. Currently, we make four consecutive offerings each year.

The ESPP provides an important employee benefit which helps us attract and retain employees and encourage their participation in and commitment to our business and financial success. As of March 31, 2008, only 53,735 shares of the 125,000 shares previously authorized by stockholders for issuance under the ESPP remained available for issuance. Approval of this increase in shares authorized for issuance under the plan is needed to allow us to continue to offer to our employees the opportunity to purchase shares of our Common Stock under the ESPP. Based on our current stock price and the number of current participants in the ESPP, we anticipate that this increase will provide sufficient shares for us to offer purchases under the ESPP for the foreseeable future.

The ESPP is intended to qualify as an employee stock purchase plan under Section 423 of the Internal Revenue Code of 1986. If the plan is qualified under Section 423, the employees who participate in the plan may enjoy certain tax advantages, as described below. Stockholder approval is required for the plan to be qualified under Section 423.

The board of directors believes that our future success depends, in large part, upon our ability to maintain a competitive position in attracting, retaining and motivating key personnel. **Accordingly, our board of directors believes that increasing the number of shares available for issuance pursuant to the ESPP is in the best interests of us and our stockholders and recommends a vote FOR the increase in the number of shares available for issuance pursuant to the ESPP.**

Description of the ESPP

The following is a brief summary of the ESPP.

Administration

Our board of directors or a committee appointed by our board of directors administers the ESPP and is authorized to make rules for the administration and interpretation of the plan.

Eligibility

All of our employees and employees of any subsidiary designated by the board of directors or the committee are eligible to participate in the ESPP if they are regularly employed by us or the designated subsidiary for more than twenty hours a week and for more than five months in a calendar year, they have been employed by us or a designated subsidiary for a least three months prior to enrolling in the plan and they are employees of us or a designated subsidiary on the first day of the applicable plan offering period. Any employee who, immediately after the grant of an option under the plan, would own 5% or more of the total combined voting power or value of our or any subsidiary's stock, is not eligible to participate. As of March 31, 2008, approximately 38 employees were eligible to participate in the ESPP.

Offerings

We may make one or more offerings to employees to purchase our Common Stock under the ESPP, as determined by the board of directors. The Committee chosen by the board of directors has determined that offerings will begin on the first trading day on or after September 1, December 1, March 1 and June 1, of each year, and that each such offering period will end on the last trading day of November, February, May and August. Our board of directors or the committee appointed by the board of directors may, at its discretion, change the duration of offering periods and the commencement date of offering periods.

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Purchase Limitations

An employee may elect to have any multiple of 1% of the employee's base salary up to a maximum of 10% deducted for the purpose of purchasing stock under the ESPP. An employee may not be granted an option which permits his or her rights to purchase our Common Stock under this plan and any other Idera stock purchase plan to accrue at a rate which exceeds \$25,000 of the fair market value of the stock (determined at the time the option is granted) for each calendar year in which the option is outstanding at any time.

Purchase Price

A participating employee may purchase the stock at 85% of the last reported sale price of our Common Stock on either the day the offering begins or ends, whichever is lower.

Amendment and Termination

Our board of directors may at any time amend the plan in any respect, except that (a) if the approval of our stockholders is required under Section 423 of the Internal Revenue Code or any other applicable law, regulation or stock exchange rule, the amendment will not be effected without their approval, and (b) in no event may any amendment be made which would cause the ESPP to fail to comply with Section 423 of the Internal Revenue Code.

Merger or Consolidation

In the event that Idera merges or consolidates with another company and our capital stockholders immediately prior to such merger or consolidation continue to hold at least 80% of the voting power of the capital stock of the surviving corporation, at the end of the then current plan period each option holder under the ESPP will be entitled to receive securities or property of the surviving entity as if they were a Common Stockholder at the time of such transaction. In the event that such a merger or consolidation occurs and the holders of our capital stock hold less than 80% of the surviving corporation, the board of directors may elect to cancel all outstanding options under the ESPP and either: a) refund all contributed payments made by the holders or b) provide the holders with the right to exercise such option as of a date no less than ten days prior to such event. If the board of directors does not choose to cancel the options, after the effective date of such transaction each option holder shall be entitled to receive securities of the surviving entity as if they were a holder of Common Stock at the time of the transaction.

Plan Benefits

Directors who are not employees are not eligible to participate in the ESPP. The table below shows the number of shares of Common Stock purchased under the ESPP since its inception in 1995 by our Chief Executive Officer, each of our other named executive officers listed in the Summary Compensation Table under "Executive Compensation" below, all current executive officers as a group and all employees as a group other than current executive officers.

	Number of Shares Purchased under the ESPP
Sudhir Agrawal, D. Phil.	—
Louis L. Arcudi, III	—
Alice S. Bexon, MBChB	—
Timothy M. Sullivan Ph.D.	23,166
Robert W. Karr, M.D.(1)	—
Robert G. Andersen(2)	9,574
Donna A. Lopolito(3)	—
All current executive officers as a group (4 persons)	23,166
All employees as a group other than the current executive officers as a group	48,099

(1) Dr. Karr served as our President until December 31, 2007.

(2) Mr. Andersen served as our Chief Financial Officer until July 31, 2007.

(3) Ms. Lopolito served as our interim chief financial officer on an interim, part-time basis from August 1, 2007 until December 3, 2007.

The benefits and amounts that may be received in the future by persons eligible to participate in the ESPP are not currently determinable.

Federal Income Tax Consequences

The following generally summarizes the United States federal income tax consequences that will arise with respect to participation in the ESPP and with respect to the sale of Common Stock acquired under the ESPP. This summary is based on the tax laws in effect as of the date of this proxy statement. Changes to these laws could alter the tax consequences described below.

Tax Consequences to Participants

A participant will not have income upon enrolling in the ESPP or upon purchasing Common Stock at the end of an offering.

A participant may have both compensation income and a capital gain or loss upon the sale of Common Stock that was acquired under the ESPP. The amount of each type of income and loss will depend on when the participant sells the Common Stock.

If the participant sells the Common Stock more than two years after the commencement of the offering during which the Common Stock was purchased and more than one year after the date that the participant purchased the Common Stock and if such sale is made at a profit (the sales proceeds exceed the purchase price), then the participant will have compensation income equal to the lesser of:

- 15% of the value of the Common Stock on the day the offering commenced; and
- the participant's profit.

Any profit in excess of the profit computed above and recognized as compensation income will be long-term capital gain. If the participant sells the Common Stock at a loss (if sales proceeds are less than the purchase price) after satisfying these waiting periods, then the loss will be a long-term capital loss.

If the participant sells the Common Stock prior to satisfying these waiting periods, then he or she will have engaged in a disqualifying disposition. Upon a disqualifying disposition, the participant will have compensation income equal to the value of the Common Stock on the day he or she purchased the Common Stock less the purchase price. The participant also will have a capital gain or loss equal to the difference between the sales proceeds and the value of the Common Stock on the day he or she purchased the Common Stock. This capital gain or loss will be long-term if the participant has held the Common Stock for more than one year and otherwise will be short-term.

Tax Consequences to Us

There will be no tax consequences to us except that we will be entitled to a deduction when a participant has compensation income upon a disqualifying disposition. Any such deduction will be subject to the limitations of Section 162(m) of the Code.

PROPOSAL 5 — RATIFICATION OF SELECTION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The audit committee of our board of directors has selected the firm of Ernst & Young LLP as our independent registered public accounting firm for the current fiscal year. Ernst & Young LLP has served as our independent auditors since 2002. Although stockholder approval of the audit committee's selection of Ernst & Young LLP is not required by law, our board of directors believes that it is advisable to give stockholders an opportunity to ratify this selection. If this proposal is not approved at the annual meeting, the audit committee of our Board of Directors may reconsider its selection.

Representatives of Ernst & Young LLP are expected to be present at the annual meeting. They will have the opportunity to make a statement if they desire to do so and will also be available to respond to appropriate questions from stockholders.

Our board of directors recommends that you vote FOR the ratification of Ernst & Young LLP as our independent registered public accounting firm for the current fiscal year.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

On February 29, 2008, we had 21,991,133 shares of Common Stock issued and outstanding. The following table sets forth information we know about the beneficial ownership of our Common Stock, as of February 29, 2008, by:

- each person known by us to own beneficially more than 5% of the outstanding shares of our Common Stock,
- each of our directors,
- each of our named executive officers, and
- all directors and executive officers as a group.

Name of Beneficial Owner(2)	Number of Shares Beneficially Owned(1)	Percentage of Common Stock Outstanding
5% Stockholders		
Felix J. Baker and Julian C. Baker(3) 667 Madison Avenue New York, NY 10021	3,222,599	13.6%
Merck & Co., Inc. One Merck Drive Whitehouse Station, NJ 08889	1,818,182	8.3%
Youssef El Zein(4) c/o Optima Life Sciences Limited Stanley House Lord Street Douglas Ile of Man, IM1 2BF British Isles	1,659,204	7.4%
Optima Life Sciences Limited(5) Stanley House Lord Street Douglas Ile of Man, IM1 2BF British Isles	1,194,976	5.4%
Sudhir Agrawal, D. Phil.(6)	1,178,011	5.1%
Other Directors and Named Executive Officers		
Robert G. Andersen(7)	149,330	*
Louis J. Arcudi, III	—	—
Alice S. Bexon, MBChB(8)	35,624	*
C. Keith Hartley(9)	64,894	*
Robert W. Karr, M.D.(10)	118,360	*
Donna A. Lopolito	—	—
Hans Mueller, Ph.D.(11)	1,333	*
William S. Reardon(12)	23,623	*
Timothy M. Sullivan, Ph.D.(13)	102,616	*
Alison Taunton-Rigby, Ph.D.(14)	16,646	*
James B. Wyngaarden, M.D.(15)	119,679	*
All current directors and executive officers as a group (11 persons)(16)	3,319,990	13.9%

* Less than 1%

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- (1) The number of shares beneficially owned by each person is determined under rules of the SEC, and the information is not necessarily indicative of beneficial ownership for any other purpose. Under such rules, beneficial ownership includes any shares as to which the stockholder has the sole or shared voting power or investment power and any shares that the stockholder has the right to acquire within 60 days after February 29, 2008 through the conversion of any convertible security or the exercise of any stock option, warrant or other right. Unless otherwise indicated, each stockholder has sole investment and voting power (or shares such power with his or her spouse) with respect to the shares set forth in the table. The inclusion of any shares deemed beneficially owned does not constitute an admission of beneficial ownership of such shares.
- (2) Except as otherwise noted, the address for each person listed above is c/o Idera Pharmaceuticals, Inc. 167 Sidney Street, Cambridge, Massachusetts 02139.
- (3) As reported on a Schedule 13G/A filed with the SEC on February 14, 2008 and Forms 4 filed on January 9, 2008 and January 14, 2008. Consists of shares of common stock held by the following entities:

Registered Holder	Shares of Common Stock	Common Stock Issuable Upon Exercise of Warrants
Baker Brothers Life Sciences, L.P.	933,109	1,047,740
Baker Brothers Investments, L.P.	46,990	52,763
Baker Brothers Investments II, L.P.	42,468	47,682
Baker Biotech Fund I, L.P.	466,766	524,108
14159, L.P.	28,721	32,252
Total	<u>1,518,054</u>	<u>1,704,545</u>

By virtue of their ownership of entities that have the power to control the investment decisions of the limited partnerships listed in the table above, Felix J. Baker and Julian C. Baker may each be deemed to be beneficial owners of shares owned by such entities and may be deemed to have shared power to vote or direct the vote of and shared power to dispose or direct the disposition of such securities.

- (4) Includes 19,335 shares of common stock subject to outstanding stock options, which are exercisable within the 60 day period following February 29, 2008. Also includes (a) 275,466 shares of common stock issuable upon the exercise of warrants held by Optima Life Sciences Ltd., or Optima, (b) 919,510 shares of common stock held by Optima and (c) 198,212 shares of common stock issuable upon the exercise of warrants held by Pillar Investment Ltd., or Pillar. Mr. El Zein is a director of Pillar and a director of Optima. Pillar is the manager and investment advisor of Optima and holds all of the voting shares of Optima. Because of his relationship with Pillar and Optima, Mr. El Zein may be deemed to beneficially own all of the shares of common stock that Pillar and Optima beneficially own. Mr. El Zein is one of four directors.
- (5) Includes 275,466 shares of common stock issuable upon the exercise of warrants held by Optima.
- (6) Includes 1,089,333 shares of common stock subject to outstanding stock options that are exercisable within 60 days after February 29, 2008.
- (7) Includes 119,615 shares of common stock subject to outstanding stock options that are exercisable within 60 days after February 29, 2008.
- (8) Consists of shares of common stock subject to outstanding stock options that are exercisable within 60 days after February 29, 2008.
- (9) Includes 20,710 shares of common stock subject to outstanding stock options that are exercisable within 60 days after February 29, 2008.
- (10) Includes 117,811 shares of common stock subject to outstanding stock options that are exercisable within 60 days after February 29, 2008.
- (11) Consists of shares of common stock subject to outstanding stock options that are exercisable within 60 days after February 29, 2008.
- (12) Includes 19,460 shares of common stock subject to outstanding stock options that are exercisable within 60 days after February 29, 2008.

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- (13) Includes 79,450 shares of common stock subject to outstanding stock options that are exercisable within 60 days after February 29, 2008.
- (14) Consists of shares of common stock subject to outstanding stock options that are exercisable within 60 days after February 29, 2008.
- (15) Includes 81,710 shares of common stock subject to outstanding stock options that are exercisable within 60 days following February 29, 2008 and 1,284 shares of common stock issuable upon exercise of warrants.
- (16) Includes 1,481,412 shares of common stock subject to outstanding stock options held by the directors and executive officers as a group that are exercisable within 60 days after February 29, 2008, and, as described in notes (3), (4) and (15) above, 474,962 shares of common stock issuable upon the exercise of warrants.

EXECUTIVE COMPENSATION Compensation Discussion and Analysis

The compensation committee of our board of directors is responsible for establishing compensation policies with respect to our executive officers, including our chief executive officer and our other executive officers who are listed in the Summary Compensation table below. We refer to these officers as “named executive officers.” Our compensation committee makes compensation decisions relating to our executive officers after consultation with our board of directors.

During 2007, we experienced several changes to our management team. On December 3, 2007, Louis J. Arcudi, III, joined us as Chief Financial Officer and Treasurer of our company. Also, Alice S. Bexon, our Vice President of Clinical Development, joined us on January 16, 2007. Robert G. Andersen, our former Chief Financial Officer and Vice President of Operations, ended his employment with us effective July 31, 2007. In connection with Mr. Andersen’s departure, we engaged AccountAbility Outsourcing, Inc., an accounting outsourcing firm, for the services of Donna A. Lopolito commencing August 1, 2007 and ending December 3, 2007. During our engagement of AccountAbility Outsourcing, Ms. Lopolito performed the functions of the chief financial officer on an interim, part-time basis. Under a letter agreement dated July 19, 2007 between us and AccountAbility Outsourcing, we paid AccountAbility Outsourcing an aggregate of \$82,460 for the services provided by Ms. Lopolito, but did not compensate Ms. Lopolito directly for her services. Dr. Robert W. Karr, our President since December 2005, resigned effective December 31, 2007.

Overview of Compensation Program and Philosophy

The compensation committee seeks to achieve the following broad goals in connection with our executive compensation programs and decisions regarding individual compensation:

- attract, retain and motivate the best possible executive talent;
- ensure executive compensation is aligned with our corporate strategies and business objectives, including our short-term operating goals and longer-term strategic objectives;
- promote the achievement of key strategic and financial performance measures by linking short- and long-term cash and equity incentives to the achievement of measurable corporate and individual performance goals; and
- align executives’ incentives with the creation of stockholder value.

To achieve these objectives, the compensation committee evaluates our executive compensation program with the goal of setting compensation at levels the committee believes are competitive with those of other companies in our industry and our region that compete with us for executive talent. In addition, our executive compensation program ties a substantial portion of each executive’s overall compensation to key strategic, financial and operational goals such as clinical trial and regulatory progress, intellectual property portfolio development, establishment and maintenance of key strategic relationships and exploration of business development

opportunities, as well as our financial and operational performance. We also provide a portion of our executive compensation in the form of stock options or other stock awards that vest over time, which we believe helps to retain our executives and align their interests with those of our stockholders by allowing them to participate in the longer term success of our company as reflected in stock price appreciation.

In making compensation decisions, our compensation committee reviews compensation survey data, such as the Radford Global Life Science Survey, a survey of U.S. biotech companies generally and the Radford Survey of U.S. biotech companies with fewer than 50 employees, as well as publicly available data about our competitors. During 2007, our compensation committee engaged Radford Surveys + Consulting, a compensation consultant, to advise on our director compensation program, which is discussed above under "Director Compensation," on equity ownership levels and equity incentive programs for our Chief Executive Officer and President, and on our compensation generally. In making compensation decisions with respect to equity ownership levels and equity incentive programs for our Chief Executive Officer and President, the compensation committee reviewed data on equity compensation of a peer group of publicly traded companies which the committee believes have business life cycles, growth profiles, market capitalizations, products, research and development investment levels and number/capabilities of employees that are roughly comparable to ours and against which the committee believes we compete for executive talent. The companies included in our peer group in connection with the review of equity ownership levels of our Chief Executive Officer and President were Allos Therapeutics, Inc., Anadys Pharmaceuticals, Inc., ARIAD Pharmaceuticals, Inc., ArQule, Inc., AVI BioPharma, Inc., BioCryst Pharmaceuticals, Inc., Coley Pharmaceutical Group, CytRx Corp., Dynavax Technologies Corp, Entremed, Inc., ImmunoGen, Inc., Kosan Biosciences, Inc., Micromet, Inc., Palatin Technologies, Inc., Peregrine Pharmaceuticals, Inc., Poniard Pharmaceuticals, Inc., Sangamo BioSciences, Inc., Sunesis Pharmaceuticals, Inc. and Synta Pharmaceuticals Corp. During 2007, the compensation committee used the Radford Global Life Science Survey data in connection with determinations regarding base salary, bonuses and annual equity awards.

Our compensation committee intends that if an executive achieves the individual and company performance goals determined by the compensation committee, then the executive should have the opportunity to receive compensation that is competitive with our peer group and industry norms. Therefore, the compensation committee considers the compensation levels of our executive officers in comparison to the percentiles from survey data for similarly situated executives. Our compensation committee uses specific target percentiles from survey data as one factor along with the experience, performance levels, potential performance levels of the executive and changes in duties and responsibilities to set compensation.

In order to accomplish its objectives consistent with its philosophy for executive compensation, our compensation committee takes the following actions annually:

- reviews executive officer performance in order to determine if individual goals are met at the end of the year;
- reviews all components of executive officer compensation, including base salary, cash bonuses, equity compensation, the dollar value to the executive and cost to us of all health and life insurance and other employee benefits and the estimated payout obligations under severance and change in control scenarios;
- seeks input from our chief executive officer and/or the president on the performance of all other executive officers;
- holds executive sessions (without our management present);
- reviews information regarding the performance and executive compensation of other companies and members of comparative peer group; and
- reviews all of the foregoing with the board of directors.

The compensation committee has implemented an annual performance review program for our executives, under which annual performance goals are determined at the beginning of each calendar year for our company as a whole, each corporate department and each executive. Annual corporate goals are proposed by management and approved by the compensation committee. These corporate goals target the achievement of specific research, clinical and operational milestones. Annual department and individual goals focus on contributions that facilitate the achievement of the corporate goals and are generally set during the first quarter of each calendar year.

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Department goals are proposed by each department head and approved by the chief executive officer. Individual goals are proposed by each executive and approved by the chief executive officer. Individual goals are closely aligned with corporate goals. Typically, the compensation committee sets the chief executive officer's goals and reviews and discusses with the chief executive officer the goals for all other executive officers. The compensation committee considers the achievement of these corporate, department and individual performance goals as one of the factors in determining annual salary increases, annual bonuses, and annual stock option awards granted to our executives.

Typically, at the end of each year, the compensation committee evaluates individual, department and corporate performance against the goals for the recently completed year. The chief executive officer prepares evaluations of the other executives and recommends annual executive salary increases, annual stock option awards and bonuses, if any, which are then reviewed and approved by the compensation committee. The compensation committee consults with the Board of Directors prior to approving compensation for executive officers. In the case of the chief executive officer, the compensation committee conducts his individual performance evaluation and determines his compensation changes and awards. For all executives, annual base salary increases are implemented during the first calendar quarter of the year. Any annual stock option awards and bonuses are granted or paid as determined by the compensation committee, typically in late December or early January of the next year.

The compensation committee does not plan to approve annual equity grants to all employees, including named executive officers, at a time when our company is in possession of material non-public information. We do not award stock options to named executive officers concurrently with the release of material non-public information.

Elements of Compensation

The compensation program for our executives generally consists of five elements based upon the foregoing objectives:

- base salary,
- annual cash bonuses,
- stock option awards,
- health care and life insurance and other employee benefits, and
- severance and change in control benefits.

The value of our variable, performance-based compensation is split between short-term compensation in the form of a cash bonus and long-term compensation in the form of stock option awards that vest over time. The annual cash bonus is intended to provide an incentive to our executives to achieve near-term operational objectives. The stock option awards provide an incentive for our executives to achieve longer-term strategic business goals, which should lead to higher stock prices and increased stockholder value. We have not had any formal or informal policy or target for allocating compensation between long-term and short-term compensation, between cash and non-cash compensation or among the different forms of non-cash compensation. Instead, the compensation committee, after reviewing industry information, determines subjectively what it believes to be the appropriate level and mix of the various compensation components.

We do not have any non-equity incentive plans, defined benefit pension plans or non-qualified deferred compensation plans.

We entered into a multi-year employment agreement with our chief executive officer, Dr. Agrawal, in October 2005, and employment offer letters with each of Louis J. Arcudi, III, our Chief Financial Officer, and Alice S. Bexon, our Vice President of Clinical Development, when they joined us in 2007.

We were party to an employment agreement with Robert W. Karr, our former president who resigned as of December 31, 2007. Subsequently, we entered into a one-year consulting agreement with Dr. Karr.

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We were also a party to an employment agreement with Robert G. Andersen, our former chief financial officer and vice president of operations. In May 2007, we entered into a transition letter agreement with Mr. Andersen, which provided that he would remain with us until July 31, 2007.

All of these agreements are described below under the caption "Agreements with our Named Executive Officers."

Base Salary

In establishing base salaries for our executive officers, our compensation committee reviews survey data provided by our compensation consultant, considers historic salary levels of the executive and the nature of the individual's responsibilities and compares the executive's base salary with those of our other executives. The compensation committee also considers the challenges involved in hiring and retaining managerial personnel and scientific personnel with extensive experience in the chemistry of DNA and RNA and its application to toll-like receptors because of the new nature of this technology, general economic conditions, our financial performance and the individual's performance.

In setting base salaries for 2007, which the compensation committee did in December 2006, the compensation committee reviewed industry survey materials prepared by Millbrook Partners, an executive compensation consulting firm that was engaged by management. After reviewing such data and taking into consideration the other items described in the preceding paragraph, the compensation committee determined to increase each executive's 2007 base salary compared to 2006 base salary by approximately 4%, which reflected increases in the consumer price index for the New England area. Dr. Sullivan also received an additional increase of 4% to reflect his expanded responsibilities.

The base salaries we agreed to pay Mr. Arcudi, who joined us in December 2007, and Dr. Bexon, who joined us in January 2007, resulted from the compensation committee's review of survey data for comparable positions, a review of their experience and prior compensation levels and our company's needs with respect to the position being filled, and negotiations between us and Mr. Arcudi and Dr. Bexon in connection with their hiring.

At the end of 2007, the compensation committee set salaries for 2008, which reflected increases in the range of 4-5% for our named executive officers consistent with increases in the consumer price index for the New England area and some minor adjustments to reflect performance and changes in responsibility. In setting base salaries for 2008, the compensation committee reviewed the survey data presented by Radford Surveys + Consulting from the Radford Global Life Sciences Survey.

Cash Bonuses

The compensation committee generally structures cash bonuses by linking them to the achievement of specified company and individual performance objectives. The amount of the bonus paid, if any, varies among the executive officers depending on their success in achieving individual performance goals and their contribution to the achievement of corporate performance goals. The compensation committee reviews and assesses corporate goals and individual performance by executive officers and considers the reasons why specific goals has not been achieved. Corporate performance criteria that are considered by the compensation committee include performance with respect to development milestones, business development objectives, commercialization goals, financial goals and other measures of corporate performance. Our executive officers generally do not have bonus targets.

In determining the cash bonuses to be paid to each of the executive officers for services rendered in 2007, the compensation committee reviewed data from the Radford Global Life Sciences Survey. Corporate goals for 2007 were established in six categories: Clinical/Regulatory, Business Development, Finance/SEC Compliance/Facility, Investor Relations/Public Relations, Science/Intellectual Property and Financial/Corporate. The committee worked with our chief executive officer to determine these goals, which were designed to be challenging goals that the committee believed could be reasonably achieved in 2007.

In establishing bonuses for 2006, the compensation committee recognized that in prior years the committee had limited the amount of cash bonuses due to our cash position. Accordingly, in light of our more favorable cash position at the end of 2006, the compensation committee determined to modify its customary allocation of incentive performance payments between cash and equity and increase the weight of the cash portion of such payments. In

determining 2007 bonus amounts, the committee believed that bonuses for 2006 should not be regarded as precedent for 2007 or future years.

In reviewing Dr. Agrawal's performance, the compensation committee also considered that we had agreed in Dr. Agrawal's employment agreement to pay him a bonus of between 20% and 70% of his base salary for 2007. In recognition of the extraordinary performance of Dr. Agrawal in 2007, the compensation committee elected to give a one-time bonus in excess of the high end of the bonus range provided for in his employment agreement. The compensation committee granted a bonus of 108% of Dr. Agrawal's base salary.

In determining Dr. Bexon's annual performance bonus, in addition to her 2007 performance and the foregoing factors, the committee considered her employment offer letter agreed that she would be eligible for an annual bonus of up to 25% of her annual base salary. Under the terms of the offer letter, we also paid Dr. Bexon a \$60,000 signing bonus, a \$60,000 bonus on her six-month anniversary of employment and agreed to pay her a \$40,000 bonus on her first year anniversary. These bonus arrangements for Dr. Bexon resulted from negotiations between us and Dr. Bexon in connection with her hiring, and reflect the committee's consideration of relevant survey data and compensation foregone by Dr. Bexon from her prior employer.

Under the transition letter agreement we entered into with Mr. Andersen, we agreed to pay Mr. Andersen a bonus equal to between 20% and 50% of his annual base salary, as determined by the board of directors (or a committee thereof) in its sole discretion, if Mr. Andersen satisfactorily achieved specified objectives during the transition period. These goals related to specific operational needs of our company in the areas of finance, operations, and information technology including relocation of our headquarters to our new building in Cambridge, Massachusetts, and the exit from our prior building, preparing our 2007 - 2008 budget, engaging a consulting firm to assist with SOX 404 compliance and developing information technology system upgrades. The compensation committee believed these goals were important ongoing projects or key operational needs that required senior management commitment and supervision and that the bonus would help ensure a smooth transition for our company. After completion of Mr. Andersen's employment with us, the compensation committee agreed to pay the transition bonus at the 50% level, equal to \$163,000, in recognition of Mr. Andersen's achievement of these goals.

Equity Compensation

Our equity award program is the primary vehicle for offering long-term incentives to our executive officers, including our named executive officers. We believe that equity awards provide our executives with a strong link to our long-term performance, create an ownership culture and help to align the interest of our named executive officers and our stockholders. Equity grants are intended as both a reward for contributing to the long-term success of our company and an incentive for future performance. The vesting feature of our equity awards is intended to further our goal of executive retention by providing an incentive to our named executive officers to remain in our employ during the vesting period, which is typically quarterly over four years. In determining the size of equity awards to our executives, our compensation committee considers comparable equity awards of executives in our compensation peer group, our company-level performance, the applicable executive's previous awards, the recommendations of management and the information received from the compensation consultant.

Our equity awards have typically taken the form of stock options. However, under the terms of our stock incentive plans, we may grant equity awards other than stock options, such as restricted stock awards, stock appreciation rights and restricted stock units. In 2007, we made one restricted stock grant, as described below.

The compensation committee approves all equity awards of options to our executives. The compensation committee reviews all components of the executive's compensation when determining annual equity awards to ensure that an executive's total compensation conforms to our overall philosophy and objectives.

The compensation committee typically makes initial stock option awards to new executives and annual stock option awards as part of our overall compensation program. In general, our option awards vest over four years in 16 equal quarterly installments. However, any of our executive's unvested stock options will vest and become immediately exercisable in full upon a change in control of our company. We generally set the exercise price of stock options to equal the closing price of our common stock on NASDAQ on the date of grant.

Equity awards to our named executive officers are typically granted annually in conjunction with the review of their individual performance. This review typically occurs at the regularly scheduled meeting of the compensation committee held in the fourth quarter of each year. In December 2006, the compensation committee made annual awards in connection with the performance reviews for 2006. However, the annual awards for 2007 were made in December 2007, with an effective date of January 2, 2008. As a result, the only equity awards to named executive officers made in 2007 were the grants to Dr. Agrawal in June 2007 and the grants to Mr. Arcudi and Dr. Bexon in connection with their joining us in 2007, as discussed below.

Following the stock option awards made to Drs. Agrawal and Karr in December 2006, the compensation committee agreed with Drs. Agrawal and Karr to consider what stock option levels are most appropriate for a long-time executive of a company who is promoted to chief executive officer, such as Dr. Agrawal, and an executive of a company that serves as president, such as Dr. Karr, and in that context to specifically review the stock option awards that had been made to Drs. Agrawal and Karr since they had signed their employee agreements with us. The committee engaged Radford Surveys + Consulting to assist with this review. As a result of this review, in June 2007, the committee determined that the level of stock options granted to Dr. Karr had been appropriate but that the level of stock options granted to Dr. Agrawal was low. Therefore, after taking into account the per-participant limitations on stock awards and stock option awards in any calendar year under our 2005 Stock Incentive Plan, the committee granted Dr. Agrawal 62,500 shares of restricted stock, vesting annually over three years in three equal installments, and an option to purchase 62,500 shares of common stock, vesting over four years with 25% of the shares subject to the option vesting on the first anniversary of the date of grant and the remaining 75% vesting in 12 quarterly installments over the following three years.

In connection with our hiring of Mr. Arcudi and Dr. Bexon we granted each of them options to purchase shares of our common stock. Mr. Arcudi's option to purchase 80,000 shares of common stock vests over three years, with one-third of the shares subject to the option vesting on the first anniversary of the date of grant and the remaining two-thirds of the shares vesting quarterly over the following two years. In the event of a change of control of our company occurring during the first year of Mr. Arcudi's employment, the vesting as to the first installment will be accelerated. Dr. Bexon was granted two options, one for 70,000 shares that vests in sixteen equal quarterly installments until fully vested on the fourth anniversary of the date of grant, and one for 20,000 shares which vests in eight equal quarterly installments until fully vested on the second anniversary of the date of grant. The terms of these options were negotiated with Mr. Arcudi and Ms. Bexon at the time of their hire and were based on the overall level of compensation that the committee determined was appropriate in light of survey data, the officer's experience, the job description and negotiations necessary to ensure that he or she accepted our offer of employment. In the case of Dr. Bexon, the option awards also reflected, in part, the value of compensation in her former employer that Dr. Bexon would forego as a result of joining our company.

In December 2007, the compensation committee made annual awards, effective as of January 2, 2008, to each of our executive officers, other than Mr. Arcudi who joined us in December 2007. We granted Dr. Agrawal an option to purchase 125,000 shares, Dr. Karr an option to purchase 45,000 shares, Dr. Bexon an option to purchase 20,000 shares and Dr. Sullivan an option to purchase 25,000 shares. In determining these option awards, the compensation committee considered the performance of each executive officer during 2007 and data from the Radford Global Life Science Survey.

Benefits and Other Compensation

We maintain broad-based benefits that are provided to all employees, including health and dental insurance, life and disability insurance and a 401(k) plan. During 2007, consistent with our prior practice, we matched 50% of the employee contributions to our 401(k) plan up to a maximum of 6% of the participating employee's annual salary, resulting in a maximum company match of 3% of the participating employee's annual salary, and subject to certain additional statutory aged-based dollar limitations. Named executive officers are eligible to participate in all of our employee benefit plans, in each case on the same basis as other employees. Except for Mr. Arcudi who joined us in December 2007, each of our named executive officers contributed to our 401(k) plan and their contributions were matched by us.

We occasionally pay relocation expenses for newly hired executive officers whom we require to relocate as a condition to their employment by us. We believe that this is a typical benefit offered by comparable companies to

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executives who are asked to relocate and that we would be at a competitive disadvantage in trying to attract executives who would need to relocate in order to work for us if we did not offer relocation assistance.

In 2007, Drs. Bexon, and Sullivan received reimbursement for local housing expenses and associated travel costs. Each of Drs. Bexon and Sullivan maintained a primary residence outside of a reasonable daily commuting range to our headquarters. Under our employment agreement with Dr. Karr, we reimbursed him up to \$2,500 per month for reasonable housing expenses during the two-year term of his employment with us.

Our named executive officers also may participate in our employee stock purchase program, which is generally available to all employees who work over 20 hours per week, including our executive officers so long as they own less than 5% of our common stock. Two of our named executive officers, Dr. Sullivan and Mr. Andersen, participated in the employee stock purchase program during 2007.

Severance

We currently have an employment agreement with Dr. Agrawal and an employment offer letter with Mr. Arcudi under which we agreed to provide benefits in the event of the termination of their employment under specified circumstances. We have provided more detailed information about these benefits, along with estimates of their value under various circumstances, under the captions "Agreements with our Named Executive Officers" and "Potential Payments Upon Termination or Change in Control" below.

We believe providing these benefits helps us compete for executive talent. We believe providing severance and change-in-control benefits are a component that can help us attract and retain highly talented executive officers whose contributions are critical to our long-term success. After reviewing the practices of companies in general industry surveys provided by our independent compensation consultant, we believe that our severance and change-in-control benefits are appropriate.

Compliance with Internal Revenue Code Section 162(m).

Section 162(m) of the Internal Revenue Code generally disallows a tax deduction to public companies for certain compensation in excess of \$1 million paid to our chief executive officer and the other officers whose compensation is required to be disclosed under the Exchange Act by reason of being among Idera's four most highly compensated officers. Certain compensation, including qualified performance-based compensation, will not be subject to the deduction limit if specified requirements are met. In general, we structure and administer our stock option plans in a manner intended to comply with the performance-based exception to Section 162(m). Nevertheless, there can be no assurance that compensation attributable to future awards granted under its plans will be treated as qualified performance-based compensation under Section 162(m). In addition, the compensation committee reserves the right to use its judgment to authorize compensation payments that may be subject to the limit when the compensation committee believes such payments are appropriate and in the best interests of our company and our stockholders.

Compensation Committee Report

The compensation committee has reviewed and discussed the Compensation Discussion and Analysis required by Item 402(b) of Regulation S-K with Idera's management. Based on this review and discussion, the compensation committee recommended to our board of directors that the Compensation Discussion and Analysis be included in this proxy statement.

By the compensation committee of the board of directors

James B. Wyngaarden, *Chairman*
C. Keith Hartley
Hans Mueller
Alison Taunton-Rigby

Summary Compensation Table

The table below summarizes compensation paid to or earned by our chief executive officer, our chief financial officers, our interim chief financial officer and our other executive officers, who we refer to collectively as our "named executive officers." Our named executive officers have no non-equity plan compensation, defined benefit pension or non-qualified compensation to report for 2007 or 2006.

Summary Compensation Table For Fiscal Year 2007

Name and Principal Position	Year	Salary (\$)	Bonus (\$)	Stock Awards (1)(3)	Option Awards (\$)(2)	All Other Compensation (\$)(3)	Total (\$)
Sudhir Agrawal, D. Phil.	2007	\$463,000	\$500,000(4)	\$ 73,500	\$ 408,822	\$ 25,727	\$1,471,049
Chief Executive Officer and Chief Scientific Officer	2006	\$445,000	\$450,000(4)	—	\$ 284,788	\$ 33,617	\$1,213,405
Louis J. Arcudi, III	2007	\$ 19,167	—	—	\$ 16,326	\$ 1,243	\$ 36,736
Chief Financial Officer and Treasurer(5)							
Alice S. Bexon, MBChB	2007	\$273,125	\$190,000(6)	—	\$ 132,616	\$ 21,087	\$ 628,703
Vice President of Clinical Development							
Timothy M. Sullivan, Ph.D.	2007	\$253,800	\$ 50,000	—	\$ 82,986	\$ 35,771	\$ 422,557
Vice President, Development Programs	2006	\$235,000	\$ 50,000	—	\$ 72,213	\$ 32,691	\$ 389,904
Robert W. Karr, M.D.	2007	\$390,000	\$200,000	—	\$ 228,545	\$ 54,907	\$ 873,452
Former President(7)	2006	\$375,000	\$250,000	—	\$ 119,051	\$ 63,009	\$ 807,060
Robert G. Andersen	2007	\$190,167	\$163,000	—	\$ 110,178	\$ 423,114	\$ 886,459(9)
Former Chief Financial Officer and Vice President, Operations(8)	2006	\$313,500	\$ 70,000	—	\$ 47,983	\$ 26,883	\$ 458,366
Donna A. Lopolito	2007	—	—	—	—	—	—
Former Interim Chief Financial Officer(10)							

- (1) Represents the amount of compensation cost that we recognized for financial statement reporting purposes for fiscal year 2007 with respect to restricted stock awarded in fiscal year 2007. In accordance with SFAS No. 123(R), the grant date fair value, which is determined by multiplying the total number of shares of restricted stock by the closing price of our company's common stock on the grant date, is amortized ratably over the vesting period.
- (2) Represents the amount of compensation cost that we recognized for financial statement reporting purposes for fiscal year 2007 with respect to stock options granted in fiscal year 2007 and previous fiscal years, as computed in accordance with SFAS No. 123R. In accordance with SFAS No. 123R, the fair value of each stock option is determined on the date of grant using the Black-Scholes option pricing model. This value is then amortized ratably over the vesting period. The amounts disregard the estimate of forfeitures related to service-based vesting conditions. When Mr. Andersen's employment ended on July 31, 2007, he forfeited options to purchase 33,813 shares of common stock. See Note 2(k) of the financial statements in our annual report on Form 10-K for the year ended December 31, 2007 regarding assumptions we made in determining the SFAS 123R value of equity awards.

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(3) "All Other Compensation" for each of the named executive officers includes the following:

	<u>Dr. Agrawal</u>	<u>Mr. Arcudi</u>	<u>Dr. Sullivan</u>	<u>Dr. Bexon</u>	<u>Dr. Karr</u>	<u>Mr. Andersen</u>
Unused Vacation	—	—	—	—	—	\$ 19,435
Reimbursement for housing and temporary associated travel expenses	—	—	\$ 13,583	\$12,290	\$27,500	—
Company match on 401(k)	\$ 10,250	—	\$ 7,614	\$ 6,413	\$10,250	\$ 5,705
Premiums paid by us for all insurance plans	\$ 15,477	\$ 1,243	\$ 14,574	\$ 2,384	\$17,157	\$ 8,095
Termination benefits	—	—	—	—	—	\$ 389,879

See footnotes 8 and 9 below for further information on the termination benefits paid to Mr. Andersen.

- (4) In the case of Dr. Agrawal, the bonus exceeded the high end of the bonus provided for in his employment agreement with us, which was \$324,100 in 2007 and \$311,500 in 2006. For further discussion of Dr. Agrawal's bonus, please see "Compensation Discussion and Analysis-Cash Bonuses" above.
- (5) Mr. Arcudi's employment with us commenced on December 3, 2007.
- (6) Dr. Bexon's bonus includes a \$60,000 signing bonus, which was paid in January 2007 when Dr. Bexon's employment commenced, and a \$60,000 signing bonus, which was paid in July 2007 on her six-month anniversary of employment.
- (7) Dr. Karr's employment with us ended on December 31, 2007.
- (8) Mr. Andersen's employment with us ended on July 31, 2007. Pursuant to the transition letter agreement we entered into with Mr. Andersen, we agreed that Mr. Andersen would receive: (i) one year of salary, equal to \$326,000, one-half of which was payable on February 1, 2008 and the remainder payable over the next six months; (ii) acceleration of 12 months of vesting on all stock options held by Mr. Andersen having an intrinsic value of \$55,815 based upon the difference between the closing price of our common stock on July 31, 2007 and the exercise price of such accelerated shares of the options, (iii) a bonus equal to between 20% to 50% of Mr. Andersen's base salary in effect as of the date his employment ended, which was paid out at the maximum of 50% and totaled \$163,000 and (iv) continuation of medical, dental and insurance benefits for 12 months after termination but only to the extent Mr. Andersen did not receive comparable benefits from a new employer, the cost of which totaled \$8,064.
- (9) Includes amount of compensation cost that we recognized for financial statement reporting with respect to stock options held by Mr. Andersen as well as the intrinsic value of shares for which we accelerated vesting as described in footnote 8 above.
- (10) Ms. Lopolito served as our interim chief financial officer on an interim, part-time basis from August 1, 2007 until December 3, 2007, pursuant to a letter agreement between us and Accountability Outsourcing, Inc., an accounting outsourcing firm. We paid AccountAbility Outsourcing an aggregate of \$82,460 for the services provided by Ms. Lopolito in 2007. We did not compensate Ms. Lopolito directly for her services.

See "Compensation Discussion and Analysis" above for a discussion of annual cash bonuses and the amount of salary and bonus in proportion to total compensation.

Agreements with our Named Executive Officers

We have entered into agreements with certain of our named executive officers, as discussed below, that provide benefits to the executives upon their termination of employment in certain circumstances or under which we have agreed to specific compensation elements. Other than as discussed below, our named executive officers do not have employment agreements with us, other than standard employee confidentiality agreements, and are at-will employees.

Sudhir Agrawal, D. Phil. We are a party to an employment agreement with Dr. Sudhir Agrawal, our chief executive officer and chief scientific officer. Under the agreement, we agreed to continue to employ Dr. Agrawal for a term originally ending on October 19, 2008. The employment term is automatically extended for an additional

year on October 19th of each year during the term of the agreement unless either party provides prior written notice to the other that the term of the agreement is not to be extended. As a result, on October 19, 2007, the term was extended to October 19, 2010.

Under the agreement, Dr. Agrawal is currently entitled to receive an annual base salary of \$485,000 or such higher amount as our compensation committee or our board of directors may determine, and an annual bonus in an amount equal to between 20% and 70% of his base salary, as determined by the compensation committee or our board of directors. Under the agreement, in 2006 we granted Dr. Agrawal an option to purchase 50,000 shares based on the achievement or near-achievement of the milestones in Dr. Agrawal's employment agreement, which options vest quarterly over a three-year period, commencing on the date the option is granted.

If we terminate Dr. Agrawal's employment without cause or if he terminates his employment for good reason, as such terms are defined in the agreement, we have agreed to:

- continue to pay Dr. Agrawal his base salary as severance for a period ending on the earlier of the final day of the term of the agreement in effect immediately prior to such termination and the second anniversary of his termination date, provided that payment of Dr. Agrawal's severance for the first six months following termination will be made in a lump sum on the date that is six months and one day following termination;
- pay Dr. Agrawal a lump sum cash payment equal to the pro rata portion of the annual bonus that he earned in the year preceding the year in which his termination occurs;
- continue to provide Dr. Agrawal with healthcare, disability and life insurance benefits for a period ending on the earlier of the final day of the term of the agreement in effect immediately prior to the termination date and the second anniversary of the termination date, except to the extent another employer provides Dr. Agrawal with comparable benefits;
- accelerate the vesting of any stock options or other equity incentive awards previously granted to Dr. Agrawal as of the termination date to the extent such options or equity incentive awards would have vested had he continued to be an employee until the final day of the term of the agreement in effect immediately prior to such termination; and
- permit Dr. Agrawal to exercise any vested stock options until the second anniversary of the termination date.

If Dr. Agrawal's employment is terminated by him for good reason or by us without cause in connection with, or within one year after, a change in control, we have agreed to provide Dr. Agrawal with all of the items listed above, except that in lieu of the severance amount described above, we will pay Dr. Agrawal a lump sum cash payment equal to his base salary multiplied by the lesser of the aggregate number of years or portion thereof remaining in his employment term and two years. We have also agreed that if we execute an agreement that provides for our company to be acquired or liquidated, or otherwise upon a change in control, we will vest all unvested stock options held by Dr. Agrawal in full.

Our employment agreement with Dr. Agrawal provides that if all or a portion of the payments made under the agreement are subject to the excise tax imposed by Section 4999 of the Code, or a similar state tax or assessment, we will pay him an amount necessary to place him in the same after-tax position as he would have been had no excise tax or assessment been imposed. Any amounts paid pursuant to the preceding sentence will also be increased to the extent necessary to pay income and excise tax on those additional amounts.

In the event of Dr. Agrawal's death or the termination of his employment due to disability, we have agreed to pay Dr. Agrawal or his beneficiary a lump sum cash payment equal to the pro rata portion of the annual bonus that he earned in the year preceding his death or termination due to disability. Additionally, any stock options or other equity incentive awards previously granted to Dr. Agrawal and held by him on the date of his death or termination due to disability will vest as of such date to the extent such options or equity incentive awards would have vested had he continued to be an employee until the final day of the term of the employment agreement in effect immediately prior to his death or termination due to disability. Dr. Agrawal or his beneficiary will be permitted to exercise such stock options until the second anniversary of his death or termination of employment due to disability.

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Dr. Agrawal has agreed that during his employment with us and for a one-year period thereafter, he will not hire or attempt to hire any of our employees or compete with us.

Robert W. Karr, M.D. We were a party to an employment agreement with Dr. Robert W. Karr, our President, which expired on December 5, 2007. Under the agreement, Dr. Karr was entitled to receive:

- an annual base salary that was \$390,000 or such higher amount as our compensation committee or our board of directors may determine;
- an annual bonus as determined by our compensation committee or our board of directors; and
- reimbursement for housing of up to \$2,500 per month.

In connection with the execution of the agreement, we granted Dr. Karr options, under our 2005 Stock Incentive Plan, to purchase 125,000 shares of Common Stock at an exercise price of \$4.80 per share. These options vest quarterly over a four-year period so long as Dr. Karr remains an employee or officer of, or consultant or advisor to, our company.

Under the employment agreement, we agreed to pay Dr. Karr severance, accelerate the vesting of his stock options and continue certain medical and insurance benefits if we terminated Dr. Karr's employment without cause or if he terminated his employment for good reason. If the termination occurred in connection with, or within one-year after, a change of control, we also agreed to reimburse Dr. Karr for excise tax imposed by Section 4999 to the same extent as described above for Dr. Agrawal. In the event of Dr. Karr's death or the termination of his employment due to disability, we agreed to accelerate in part the vesting of any stock options or other equity incentive awards previously granted to Dr. Karr.

Dr. Karr agreed that during his employment with us and for a one-year period thereafter, he will not hire or attempt to hire any of our employees or compete with us.

Dr. Karr resigned as President effective December 31, 2007. Dr. Karr remains a director of our company. In addition, Dr. Karr serves as a consultant to us, receiving a consulting fee of \$375 per hour up to a maximum of \$3,000 per day, under a consulting agreement dated January 2, 2008.

Louis J. Arcudi, III. In connection with our hiring of Mr. Arcudi, we agreed in his offer letter:

- that he would be eligible for a bonus equal to between 20% and 30% of his base salary for 2008;
- to pay Mr. Arcudi a signing bonus of \$50,000 payable in two equal installments on January 31, 2008 and May 30, 2008, and
- in the event that a change of control occurs during the first year of Mr. Arcudi's employment with us, to accelerate the vesting as to one-third of the shares subject to the option granted to Mr. Arcudi at the time of his hire.

If we terminate Mr. Arcudi's employment without cause, we agreed to pay Mr. Arcudi three months severance and continue his medical and dental insurance and to pay him his signing bonus on the agreed upon dates. Our obligation to make such payments and provide such benefits is contingent upon Mr. Arcudi's execution of a release in a form reasonably acceptable to us.

Alice S. Bexon, MBChB. In connection with our hiring of Dr. Bexon, we agreed in her offer letter that she would be eligible for a bonus of up to 25% of her base salary. We also agreed to pay her a \$60,000 signing bonus on the commencement of her employment, a \$60,000 signing bonus on her six-month anniversary of employment and a \$40,000 bonus on her first anniversary of employment.

Robert G. Andersen. We were a party to an employment agreement with Robert G. Andersen, our Chief Financial Officer and Vice President of Operations until July 31, 2007, which agreement provided for base salary, a bonus as determined by our compensation committee or our board of directors and severance benefits if his employment was terminated by us without cause or due to disability, by him for good reason, or following a change of control. In May 2007, we entered into a transition letter agreement with Mr. Andersen, which provided that he

would remain with us until July 31, 2007. Under the agreement, if Mr. Andersen satisfactorily performed his employment duties with us through July 31, 2007, we agreed that following July 31, 2007, we would:

Robert G. Andersen. We were a party to an employment agreement with Robert G. Andersen, our Chief Financial Officer and Vice President of Operations until July 31, 2007, which agreement provided for base salary, a bonus as determined by our compensation committee or our board of directors and severance benefits if his employment was terminated by us without cause or due to disability, by him for good reason, or following a change of control. In May 2007, we entered into a transition letter agreement with Mr. Andersen, which provided that he would remain with us until July 31, 2007. Under the agreement, if Mr. Andersen satisfactorily performed his employment duties with us through July 31, 2007, we agreed that following July 31, 2007, we would:

- pay Mr. Andersen an amount equal to 12 months of his annual base salary in effect as of his termination date, one half of which would be payable on February 1, 2008 and the remainder of which would be payable in accordance with our payroll practices commencing on February 1, 2008 and ending July 31, 2008;
- accelerate the vesting of any stock options or other equity incentive awards held by Mr. Andersen such that such options or equity incentive awards would be vested as if he had continued to be an employee until July 31, 2008;
- permit Mr. Andersen to exercise his stock options until July 31, 2008, except for options that by their terms permit for a longer exercise period;
- continue to provide Mr. Andersen and his eligible dependents with healthcare, disability and life insurance benefits until July 31, 2008, except to the extent another employer provides Mr. Andersen with comparable benefits; and
- pay Mr. Andersen a transition bonus equal to between 20% and 50% of his annual base salary, as determined by the board of directors (or a committee thereof) in its sole discretion, if Mr. Andersen satisfactorily achieved specified performance objectives during the transition period.

Grants of Plan-Based Awards

The following table sets forth information regarding stock options and restricted stock awards granted to each named executive officer during 2007.

Grants of Plan-Based Awards for Fiscal Year 2007

Name	Grant Date	All Other Stock Awards: Number of Shares of Stock or Units (#)(1)	All Other Option Awards: Number of Securities Underlying Options (#)(2)	Exercise or Base Price of Option Awards (\$/Sh)	Grant Date Fair Value of Stock and Option Awards\$(3)
Sudhir Agrawal, D. Phil.	6/25/07	62,500			\$ 440,625
	6/25/07		62,500	\$ 7.05	\$ 295,250
Louis J. Arcudi, III	12/3/07	—	80,000	\$ 12.25	\$ 640,208
Alice S. Bexon, MBChB	1/16/07	—	90,000	\$ 7.55	\$ 453,213
Timothy M. Sullivan, Ph.D.	—	—	—	—	—
Robert W. Karr, M.D.(4)	—	—	—	—	—
Robert G. Andersen(5)	—	—	—	—	—
Donna A. Lopolito(6)	—	—	—	—	—

- (1) Consists of a restricted stock award to Dr. Agrawal under our 2005 Stock Incentive Plan, which award vests over three years from the date of grant in three equal installments. See "Agreements with our Named Executive Officers" for further information regarding Dr. Agrawal's employment agreement which provides for acceleration of vesting in connection with the termination of Dr. Agrawal's employment in specified circumstances.
- (2) The stock options granted to each of the named executive officers listed above were granted pursuant to our 2005 Stock Incentive Plan. The term of these options is ten years. The stock option granted to Dr. Agrawal vests

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over four years from the date of grant, with 25% of the shares subject to the option vesting on the first anniversary of the date of grant and the remaining 75% vesting in twelve equal installments over the following three years. The stock option granted to Mr. Arcudi vests over three years from the date of grant with the first installment vesting on the first anniversary of the date of grant and the balance of the shares vesting quarterly over the remaining two years. See "Agreements with our Named Executive Officers" for further information about acceleration of vesting of Dr. Agrawal's options in connection with the termination of his employment and in the event of a change of control and of Mr. Arcudi's options in the event of a change of control. The option granted to Dr. Bexon to purchase 70,000 shares vests in sixteen equal quarterly installments until fully vested on the fourth anniversary of the date of grant. The option granted to Dr. Bexon to purchase 20,000 shares vests in eight equal quarterly installments until fully vested on the second anniversary of grant.

- (3) The option-related amounts represent the grant date fair value, computed in accordance with SFAS No. 123R of stock options granted to the named executive officers in 2007. In accordance with SFAS No. 123R, the grant date fair value of the stock options is determined on the date of grant using Black-Scholes option pricing model and the grant date fair value of the restricted stock award is equal to the number of shares multiplied by the closing price of our common stock on the date of grant. See Note 2(k) of the consolidated financial statements in our annual report on Form 10-K for the year ended December 31, 2007 regarding assumptions we made in determining the SFAS 123R value of equity awards.
- (4) Dr. Karr served as our President until December 31, 2007.
- (5) Mr. Andersen served as our Chief Financial Officer until July 31, 2007.
- (6) Ms. Lopolito served as our interim chief financial officer on a part-time basis from August 1, 2007 to December 31, 2007.

Outstanding Equity Awards At Fiscal Year-End

The following table sets forth information regarding the outstanding stock options and restricted stock awards held by our named executive officers as of December 31, 2007.

Outstanding Equity Awards At Fiscal Year-End for 2007

Name	Option Awards				Stock Awards	
	Number of Securities Underlying Unexercised Options Exercisable (#)	Number of Securities Underlying Unexercised Options (#)	Option Exercise Price(S)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested (\$)
Sudhir Agrawal, D. Phil.(1)	62,500	—	\$ 4.00	7/21/2008		
	62,499	—	\$ 4.00	1/1/2009		
	62,500	—	\$ 8.50	1/1/2010		
	62,500	—	\$ 8.50	1/1/2011		
	243,751	—	\$ 4.50	3/28/2011		
	47,718	—	\$ 8.50	4/2/2011		
	288,750	—	\$ 6.60	7/25/2011		
	23,437(2)	7,813(2)	\$ 4.16	11/30/2014		
	104,167(3)	20,833(3)	\$ 4.48	5/12/2015		
	41,667(4)	8,333(4)	\$ 5.76	6/1/2015		
	18,750(5)	18,750(5)	\$ 4.24	12/15/2015		
	35,418(6)	89,582(6)	\$ 5.10	12/14/2016		
	—	62,500(7)	\$ 7.05	6/25/2017	62,500(16)	\$ 818,750(17)
Louis J. Arcudi, III	—	80,000(8)	\$ 12.25	12/3/2017		
Alice S. Bexon, MBChB	7,500(9)	12,500(9)	\$ 7.55	1/16/2017		
	13,125(10)	56,875(10)	\$ 7.55	1/16/2017		
Timothy M. Sullivan, Ph.D.	7,500	—	\$ 11.28	3/25/2012		
	3,750	—	\$ 6.24	12/12/2012		
	5,625	—	\$ 8.96	12/16/2013		
	44,062(2)	14,688(2)	\$ 4.16	11/30/2014		
	6,250(5)	6,250(5)	\$ 4.24	12/15/2015		
Robert W. Karr, M.D. (13)	5,000(11)	15,000(11)	\$ 5.10	12/14/2016		
	3,125	—	\$ 4.88	6/15/2015		
	1,250	—	\$ 4.48	7/1/2015		
	1,250	—	\$ 5.36	10/1/2015		
	62,500(12)	62,500(12)	\$ 4.80	12/5/2015		
Robert G. Andersen(14)	31,250(11)	93,750(11)	\$ 5.10	12/14/2016		
	4,737	—	\$ 4.00	3/1/2009		
	56,250	—	\$ 10.00	7/31/2008		
	27,441	—	\$ 4.50	7/31/2008		
	32,812	—	\$ 4.16	7/31/2008		
Donna A. Lopolito(15)	15,525	—	\$ 4.24	7/31/2008		
Donna A. Lopolito(15)	—	—	—	—	—	—

(1) In accordance with the terms of our employment agreement with Dr. Agrawal unvested stock options vest in full upon a change in control of our company. See "Agreements with our Named Executive Officers" for more information.

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- (2) 6.25% of the shares subject to this option vest quarterly from the date of grant until November 30, 2008 when all shares will be vested. The total number of shares subject to the option equals the sum of the figures in the exercisable and unexercisable columns.
- (3) 8.33% of the shares subject to this option vest quarterly from the date of grant until May 12, 2008 when all shares will be vested. The total number of shares subject to the option equals the sum of the figures in the exercisable and unexercisable columns.
- (4) 8.33% of the shares subject to this option vest quarterly from the date of grant until June 1, 2008 when all shares will be vested. The total number of shares subject to the option equals the sum of the figures in the exercisable and unexercisable columns.
- (5) 6.25% of the shares subject to this option vest quarterly from the date of grant until December 15, 2009 when all shares will be vested. The total number of shares subject to the option equals the sum of the figures in the exercisable and unexercisable columns.
- (6) 50,000 of the shares subject to this option vest quarterly from the date of grant until December 14, 2009 and 75,000 of the shares subject to this option vest quarterly from the date of grant until December 14, 2010, when all shares will be vested.
- (7) 25% of the shares subject to this option vest on June 25, 2009, the first anniversary of the date of grant, and the remaining 75% vest in 12 equal quarterly installments commencing on September 25, 2009 until June 25, 2012. The total number of shares subject to the option equals the sum of the figures in the exercisable and unexercisable columns.
- (8) One-third of the shares subject to this option vest on December 3, 2008 and the remainder will vest in equal quarterly installments beginning on March 3, 2009 until December 3, 2010 when all shares will be vested. The total number of shares subject to the option equals the sum of the figures in the exercisable and unexercisable columns. In accordance with the terms of our employment offer letter with Mr. Arcudi, the vesting with respect to one-third of the option held by him will accelerate in full upon a change of control that occurs during the first year of his employment. See "Agreements with our Named Executive Officers" for more information.
- (9) 12.5% of the shares subject to this option vest quarterly from the date of grant until January 16, 2009 when all shares will be vested. The total number of shares subject to the option equals the sum of the figures in the exercisable and unexercisable columns.
- (10) 8.33% of the shares subject to this option vest quarterly from the date of grant until January 16, 2011 when all shares will be vested. The total number of shares subject to the option equals the sum of the figures in the exercisable and unexercisable columns.
- (11) 6.25% of the shares subject to this option vest quarterly from the date of grant until December 14, 2010 when all shares will be vested. The total number of shares subject to the option equals the sum of the figures in the exercisable and unexercisable columns.
- (12) 6.25% of the shares subject to this option vest quarterly from the date of grant until December 5, 2009 when all shares will be vested. The total number of shares subject to the option equals the sum of the figures in the exercisable and unexercisable columns.
- (13) Dr. Karr served as our President until December 31, 2007.
- (14) Pursuant to a transition letter agreement between us and Mr. Andersen, as of July 31, 2007 the vesting of any stock options or other equity incentive awards held by Mr. Andersen was accelerated to the extent such options or equity incentive awards would have vested had he continued to be an employee until July 31, 2008. Additionally, Mr. Andersen is entitled to exercise his vested stock options until July 31, 2008, except for options that by their terms permit for a longer exercise period. Mr. Andersen served as our Chief Financial Officer until July 31, 2007.
- (15) Ms. Lopolito served as our interim chief financial officer on a part-time basis from August 1, 2007 to December 3, 2007.
- (16) These restricted shares vest in three equal annual installments from the date of grant until June 25, 2010 when all shares will be vested.

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- (17) This amount was determined by multiplying the total number of shares of our common stock underlying the restricted stock by \$13.10, the closing price of our common stock on December 31, 2007.

Option Exercises

The following table sets forth information regarding the exercise of options by our named executive officers during 2007. None of our named executive officers had stock awards that vested in 2007.

Option Exercises and Stock Vested For Fiscal Year 2007

Name	Option Awards	
	Number of Shares Acquired on Exercise (#)	Value Realized on Exercise \$(1)
Sudhir Agrawal, D. Phil.	4,033	\$ 20,283
Louis J. Arcudi, III	—	—
Alice S. Bexon, MBChB	—	—
Timothy M. Sullivan, Ph.D.	—	—
Robert W. Karr, M.D.(2)	—	—
Robert G. Andersen(3)	59,480	\$ 391,744
Donna A. Lopolito(4)	—	—

(1) The value realized on exercise was calculated by multiplying the number of shares acquired on exercise by the difference between the market price of the underlying securities at exercise and the exercise price of the options. The market price at exercise represents the closing market price of our common stock on the date of exercise or the sales price if the options were exercised and sold.

(2) Dr. Karr served as our President until December 31, 2007.

(3) Mr. Andersen served as our Chief Financial Officer until July 31, 2007.

(4) Ms. Lopolito served as our interim chief financial officer on an interim part-time basis from August 1, 2007 to December 3, 2007.

Potential Payments Under Termination or Change in Control

We have an employment agreement with Dr. Agrawal that provides for severance benefits following a termination of his employment with our company. We also had an employment agreement with Dr. Karr, our President, which expired on December 5, 2007. Dr. Karr resigned effective December 31, 2007. Additionally, Mr. Arcudi's employment offer letter provides for severance benefits in certain circumstances. We entered into a transition letter agreement with Mr. Andersen that provided for benefits upon his departure. These agreements are described above under the caption "Agreements with our Named Executive Officers." We have not entered into employment agreements with Dr. Sullivan or Dr. Bexon and neither of them is entitled to any severance benefits following a termination of his or her employment with our company.

The following table sets forth the estimated potential benefits that our named executive officers would be entitled to receive upon their termination of employment with our company (other than a termination in connection with or following a change in control of the company). Except for Mr. Andersen, these disclosed amounts assume that the named executive officers' employment terminated on December 31, 2007, are estimates only and do not necessarily reflect the actual amounts that would be paid to our named executive officers, which would only be known at the time that they become eligible for payment following their termination. Mr. Andersen's employment with us terminated on July 31, 2007 and the information in the table reflects actual amounts paid or payable to Mr. Andersen upon his departure.

**Termination of Employment Not In Connection With or Following
Change in Control**

Name	Severance Payments (S)	Bonus Amount (S)	Value of Accelerated Vesting of Stock Options(1) (S)	Value of Continuation of Benefits (S)	Total (S)
Sudhir Agrawal, D. Phil.(2)	\$926,000	\$ 450,000	\$ 1,282,373	\$ 40,571(3)	\$2,698,944
Louis J. Arcudi, III	—	—	—	—	—
Alice S. Bexon, MBChB	—	—	—	—	—
Timothy M. Sullivan, Ph.D.	—	—	—	—	—
Robert W. Karr, M.D.(4)	—	—	—	—	—
Robert G. Andersen(5)	\$326,000	\$ 163,000	\$ 55,815	\$ 8,064	\$ 552,879
Donna A. Lopolito(6)	—	—	—	—	—

- (1) In the case of Dr. Agrawal, this amount equals the difference between the exercise price of each "in the money" option and \$13.10, the closing price of our common stock on December 31, 2007 multiplied by the number of options that would vest as a result of the accelerated vesting provided for under the employment agreements in the case of termination without cause by us or termination by Dr. Agrawal for good reason. In the case of Mr. Andersen, this amount equals the difference between the exercise price of each "in the money" option and \$6.90, the closing price of our common stock on July 31, 2007, the date Mr. Andersen's employment with us terminated, multiplied by the number of options that vested as a result of the accelerated vesting provided for under the transition letter agreement entered into between Mr. Andersen and us in connection with the termination of his employment.
- (2) The severance payments to Dr. Agrawal will be paid out in accordance with our payroll practices over the term of the severance period. However, the severance payments for the six-month period following termination will be paid in a lump sum on the date six months and one day following the date of termination. Severance payments will only be paid to Dr. Agrawal following termination by him for good reason or following termination by us other than for death, disability or cause. Dr. Agrawal would be entitled to the pro rata portion of the bonus earned for the prior fiscal year — in this case, 2006. This amount does not include any bonus that would otherwise be paid for 2007. We will pay the bonus following termination upon Dr. Agrawal's death or disability, termination by us without cause or termination by Dr. Agrawal for good reason. If Dr. Agrawal's employment were terminated upon his death or disability the value of his accelerated stock options would be \$1,463,754. Upon termination of Dr. Agrawal's employment for death or disability the vesting of options through the remainder of the employment term would be accelerated.
- (3) This amount represents the estimated cost to us of continuing Dr. Agrawal's healthcare, disability, life and dental insurance benefits for the full severance period based on our costs for such benefits at December 31, 2007. Under our employment agreement with Dr. Agrawal, we will pay benefits continuation following a termination by us other than for death, disability or cause or termination by the named executive officer for good reason.
- (4) Although we were a party to an employment agreement with Dr. Karr that provided for severance upon the termination of his employment, the agreement expired on December 5, 2007. Dr. Karr served as our President until December 31, 2007.

- (5) The amounts shown for Mr. Andersen represent actual amounts paid or payable to Mr. Andersen in connection with his departure on July 31, 2007. See “Agreements with our Named Executive Officers” for a description of the transition letter agreement we entered into with Mr. Andersen regarding severance and other benefits upon the termination of his employment. See also footnote 8 to the Summary Compensation Table above for further information on the amounts set forth above.
- (6) Ms. Lopolito served as our interim chief financial officer on a part-time basis from August 1, 2007 to December 3, 2007.

Under Dr. Agrawal’s employment agreement, he would be entitled to receive the estimated benefits shown in the table below if his employment were terminated in connection with or within one year after a change in control. Additionally, Mr. Arcudi’s employment offer letter provides that if a change of control occurs within the first year of his employment, the vesting as to one-third of the stock option granted to him in connection with his hire would accelerate. These disclosed amounts are estimates only and do not necessarily reflect the actual amounts that would be paid to our named executive officers, which would only be known at the time that they become eligible for payment and would only be payable if a change in control were to occur. The table below reflects the amount that could be payable under the various arrangements assuming that the change in control occurred on December 31, 2007 and the named executive officer’s employment was immediately terminated, and an estimate regarding any gross-up payment for certain taxes in the event that any payments made in connection with a change-in-control of our company would be subject to the excise tax imposed by Section 4999 of the Code. Mr. Andersen and Ms. Lopolito were not employed with us on December 31, 2007 and are not listed in the table below.

**Termination of Employment In Connection With or Following
Change in Control**

Name	Severance Payments \$(1)	Bonus Amount \$(1)	Value of Accelerated Vesting of Stock Options(2) (\$)	Value of Continuation of Benefits(3) (\$)	Tax Gross- Up Payments	Total (\$)
Sudhir Agrawal, D. Phil.	\$ 926,000	\$ 450,000	\$ 1,571,499	\$ 40,571	\$ 416,187	\$ 3,404,257
Louis J. Arcudi, III	—	—	\$ 22,670	—	—	\$ 22,670
Alice S. Bexon, MBChB	—	—	—	—	—	—
Timothy M. Sullivan, Ph.D.	—	—	—	—	—	—
Robert W. Karr, M.D.(4)	—	—	—	—	—	—

- (1) The severance and bonus payments will be paid out in a lump sum within 30 days of the date of termination. Severance payments will only be paid following termination by the named executive officer for good reason or termination by us other than for death, disability or cause.
- (2) This amount equals the difference between the exercise price of each “in the money” option and \$13.10, the closing price of our common stock on December 31, 2007, multiplied by the number of options that would vest as a result of the accelerated vesting provided for under the employment agreements. Upon a change of control, the vesting of all Dr. Agrawal’s unvested options will accelerate. Upon a change of control occurring in the first year of Mr. Arcudi’s employment with us, the vesting as to one-third of the shares of common stock subject to the option to purchase 80,000 shares granted to him in connection with his hire will accelerate.
- (3) Represents the estimated cost to us of continuing the healthcare, disability, life and dental insurance benefits of the named executive officers for the applicable severance period based on our costs for such benefits at December 31, 2007.
- (4) Dr. Karr served as our President until December 31, 2007.

**SECURITIES AUTHORIZED FOR ISSUANCE UNDER OUR
EQUITY COMPENSATION PLAN INFORMATION**

The following table provides information about our common stock that may be issued upon exercise of options, warrants and rights under all of our equity compensation plans as of December 31, 2007.

Equity Compensation Plan Information

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (a)	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights (b)	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) (c)
Equity compensation plans approved by stockholders(1)	2,428,292	\$ 5.63	1,489,741
Equity compensation plans not approved by stockholders(2)	<u>324,662</u>	\$ 6.81	<u>—</u>
Total	<u>2,752,954</u>	\$ 5.77	<u>1,489,741</u>

(1) Includes our:

- 1995 Stock Option Plan
- 1995 Employee Stock Purchase Plan
- 1995 Director Stock Option Plan
- 1997 Stock Incentive Plan
- 2005 Stock Incentive Plan

If our stockholders approve our 2008 Stock Incentive plan as outlined in proposal 3, following the annual meeting, shares will be available for future issuance only under our 1995 Employee Stock Purchase Plan and our 2008 Stock Incentive Plan.

(2) Consists of non-statutory stock option agreements issued to Dr. Sudhir Agrawal, effective as of April 2, 2001 and July 25, 2001.

Non-Statutory Stock Option Agreements with Dr. Agrawal

In 2001, we granted Dr. Agrawal four non-statutory stock options outside of any equity compensation plan approved by our stockholders, as follows:

- A non-statutory stock option agreement providing for the purchase of 157,500 shares of common stock at an exercise price of \$6.60 per share;
- A non-statutory stock option agreement providing for the purchase of 68,750 shares of common stock at an exercise price of \$6.60 per share;
- A non-statutory stock option agreement providing for the purchase of 62,500 shares of common stock at an exercise price of \$6.60 per share; and
- A non-statutory stock option agreement providing for the purchase of 35,912 shares of common stock at an exercise price of \$8.504 per share.

These options have a term of ten years and are now fully vested. Subject to the terms of Dr. Agrawal's employment agreement with us, unless we terminate his employment for cause or he voluntarily resigns, these options are exercisable at any time prior to the earlier of the date that is 24 months after the termination of Dr. Agrawal's relationship with us and the option expiration date. If we terminate Dr. Agrawal's employment for cause or he voluntarily resigns, then the options will be exercisable at any time prior to the earlier of the date that is 12 months after the termination of Dr. Agrawal's relationship with us and the option expiration date.

ACCOUNTING MATTERS Report of the Audit Committee

The audit committee has reviewed our audited financial statements for the fiscal year ended December 31, 2007 and discussed them with our management and our registered public accounting firm.

The audit committee has also received from, and discussed with, our registered public accounting firm various communications that our registered public accounting firm is required to provide to the audit committee, including the matters required to be discussed by the 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 in Rule 3200T.

The audit committee has received the written disclosures and the letter from our company's registered public accounting firm required by Independence Standards Board Standard No. 1 (Independence Standards Board Standard No. 1, *Independence Discussions with audit committees*), as adopted by the Public Company Accounting Oversight Board in Rule 3600T, and has discussed with our registered public accounting firm their independence.

Based on the review and discussions referred to above, the audit committee recommended to our board of directors that the audited financial statements be included in our Annual Report on Form 10-K for the year ended December 31, 2007.

By the audit committee of the board of directors,

AUDIT COMMITTEE

William S. Reardon, *Chairman*
Hans Mueller
Alison Taunton-Rigby

Registered Public Accounting Firm Fees

We paid Ernst & Young LLP a total of \$383,960 for professional services rendered for the year ended December 31, 2007 and \$286,468 for professional services rendered for the year ended December 31, 2006. The following table provides information about these fees.

<u>Fee Category</u>	<u>2006</u>	<u>2007</u>
Audit Fees	\$247,743	\$302,075
Audit-Related Fees	20,725	17,625
Tax Fees	16,500	41,760
All Other Fees	1,500	1,500
Total Fees	<u>\$286,468</u>	<u>\$383,960</u>

Audit Fees

Audit fees consist of fees for the audit of our financial statements, the audit of our internal control over financial reporting, the review of the interim financial statements included in our quarterly reports on Form 10-Q, and other professional services provided in connection with statutory and regulatory filings or engagements.

Audit-Related Fees

Audit-related fees consisted of fees for assurance and related services that are reasonably related to the performance of audits and reviews of our financial statements that are not reported under "Audit Fees." These services include audits of our employee benefit plans and consultations regarding internal controls, financial accounting and reporting standards.

Tax Fees

Tax fees consisted of fees for tax compliance, tax advice and tax planning services. Tax compliance services, which relate to preparation of tax returns, accounted for \$18,500 of the total tax fees billed in 2007 and all of the total tax fees billed in 2006. Tax advice and tax planning services relate to tax advice related to our net operating losses.

All Other Fees

During fiscal 2007, all other fees related to our subscription to Ernst & Young's online accounting and auditing research tool. Ernst & Young LLP did not collect fees for any other services for 2006 or 2007.

Our audit committee believes that the non-audit services described above did not compromise Ernst & Young LLP's independence. Our audit committee charter, which you can find by clicking "Investors" and "Corporate Governance" on our website, www.iderapharma.com, requires that all proposals to engage Ernst & Young LLP for services, and all proposed fees for these services, be submitted to the audit committee for approval before Ernst & Young LLP may provide the services.

Pre-Approval Policies and Procedures

Our audit committee has adopted policies and procedures relating to the approval of all audit and non-audit services that are to be performed by our registered public accounting firm. This policy generally provides that we will not engage our registered public accounting firm to render audit or non-audit services unless the service is specifically approved in advance by the audit committee or the engagement is entered into pursuant to the pre-approval procedures described below.

From time to time, the audit committee may pre-approve specified types of services that are expected to be provided to us by our registered public accounting firm during the next 12 months. Any such pre-approval is detailed as to the particular service or type of services to be provided and is also generally subject to a maximum dollar amount.

RELATED PARTY TRANSACTIONS

Our board of directors is committed to upholding the highest legal and ethical conduct in fulfilling its responsibilities and recognizes that related party transactions can present a heightened risk of potential or actual conflicts of interest. Accordingly, as a general matter, it is our preference to avoid related party transactions.

In accordance with our audit committee charter, members of the audit committee, all of whom are independent directors, review and approve all related party transactions for which approval is required under applicable laws or regulations, including SEC and the NASDAQ Stock Market rules. Current SEC rules define a related party transaction to include any transaction, arrangement or relationship in which we are a participant and the amount involved exceeds \$120,000, and in which any of the following persons has or will have a direct or indirect interest:

- our executive officers, directors or director nominees;
- any person who is known to be the beneficial owner of more than 5% of our common stock;
- any person who is an immediate family member, as defined under Item 404 of Regulation S-K, of any of our executive officers, directors or director nominees or beneficial owner of more than 5% of our common stock; or
- any firm, corporation or other entity in which any of the foregoing persons is employed or is a partner or principal or in a similar position or in which such person, together with any other of the foregoing persons, has a 5% or greater beneficial ownership interest.

In addition, the audit committee reviews and investigates any matters pertaining to the integrity of management, including conflicts of interest and adherence to our Code of Business Conduct and Ethics. Under our Code of Business Conduct and Ethics, our directors, officers and employees are expected to avoid any relationship,

influence or activity that would cause or even appear to cause a conflict of interest. Under our Code of Business Conduct and Ethics, a director is required to promptly disclose to our board of directors any potential or actual conflict of interest involving him or her. In accordance with our Code of Business Conduct and Ethics, the board of directors will determine an appropriate resolution on a case-by-case basis. All directors must recuse themselves from any discussion or decision affecting their personal, business or professional interests.

Since January 1, 2007, we have entered into or engaged in the following transactions with the following directors, officers and stockholders who beneficially owned more than 5% of our outstanding common stock at the time of these transactions, as well as affiliates or immediate family members of those directors, officers stockholders. We believe that the terms of the transactions described below were no less favorable than those that we could have obtained from unaffiliated third parties.

Youssef El Zein and Affiliates.

Mr. El Zein is a director of Pillar Investment Ltd. and a director of Optima Life Sciences Limited. Pillar is the manager and investment advisor of Optima and holds all of the voting shares of Optima. In 2005, Optima purchased \$3,102,750 aggregate principal amount of our 4% convertible subordinated notes due April 30, 2008. In February 2007, in connection with our election to automatically convert such 4% notes into shares of our common stock, we issued to Optima 435,779 shares of our common stock and paid accrued interest of \$37,578 in cash.

Merck & Co., Inc.

In December 2006, we entered into an exclusive license and research collaboration agreement with Merck & Co., Inc. to research, develop and commercialize vaccine products containing our agonist compounds targeting toll-like receptors, or TLR, 7, 8 and 9 in the licensed fields of oncology, infectious diseases and Alzheimer's disease. In 2007, Merck & Co. sponsored approximately \$1.1 million of our research and development activities.

Under the terms of the agreement, we granted Merck worldwide exclusive rights to a number of our agonist compounds targeting TLR 7, 8 and 9 for use in combination with Merck's therapeutic and prophylactic vaccines under development in the licensed fields. There is no limit to the number of vaccines to which Merck can apply our agonists within the licensed fields. In addition, we agreed that we would not develop or commercialize, either directly or through a third party, any agonist targeting TLR 7, 8 or 9 for use in connection with vaccine products in the licensed fields. We also agreed with Merck to engage in a two-year research and development collaboration to generate novel agonists targeting TLR 7 and TLR 8 and incorporating both Merck and Idera chemistry for use in the licensed fields. Merck may extend the collaboration for two additional one-year periods.

Under the terms of the agreement,

- Merck paid us a \$20 million upfront license fee;
- Merck purchased 1,818,182 shares of our common stock for a price of \$5.50 per share resulting in an aggregate purchase price of \$10 million;
- Merck agreed to fund the research and development collaboration;
- Merck agreed to pay us milestone payments as follows:
 - up to \$165 million if vaccines containing our TLR9 agonist compounds are successfully developed and marketed in each of the oncology, infectious disease and Alzheimer's disease fields;
 - up to \$260 million if vaccines containing our TLR9 agonist compounds are successfully developed and marketed for follow-on indications in the oncology field and if vaccines containing our TLR 7 and 8 agonists are successfully developed and marketed in each of the oncology, infectious disease and Alzheimer's disease fields; and
 - if Merck develops and commercializes additional vaccines using our agonists, we would be entitled to receive additional milestone payments.

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- Merck agreed to pay us royalties on net product sales of vaccines using our TLR agonist technology that are developed and marketed.

Under the research and collaboration agreement, Merck is obligated to pay us royalties, on a product-by-product and country-by-country basis, until the later of the expiration of the patent rights licensed to Merck and the expiration of regulatory-based exclusivity for the vaccine product. If the patent rights and regulatory-based exclusivity expire in a particular country before the 10th anniversary of the product's first commercial sale in such country, Merck will continue to pay us royalties at a reduced royalty rate until such anniversary, except that Merck's royalty obligation will terminate upon the achievement of a specified market share in such country by a competing vaccine containing an agonist targeting the same toll-like receptor as that targeted by the agonist in the Merck vaccine. In addition, the applicable royalties may be reduced if Merck is required to pay royalties to third parties for licenses to intellectual property rights, which royalties exceed a specified threshold. Merck's royalty and milestone obligations may also be reduced if Merck terminates the agreement based on specified uncured material breaches by us. The agreement may be terminated by either party based upon specified uncured breaches by the other party or by Merck at any time after providing us with advance notice of termination.

Merck has agreed that, during the balance of the research and collaboration term, its ability to sell the shares we issued to it will be subject to specified volume limitations. We also entered into a registration rights agreement with Merck and filed a registration statement with the SEC registering the resale of the shares of common stock issued and sold to Merck.

SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Based solely on our review of copies of reports filed by individuals and entities required to make filings pursuant to Section 16(a) of the Exchange Act or written representations from such individuals or entities, we believe that during 2007 all filings required to be made by such individuals or entities were timely made in accordance with the Exchange Act, except that Youssef El Zein failed to timely file Form 4 in connection with transactions effected on April 27, 2007 and October 1, 2007.

By order of the board of directors,

/s/ LOUIS J. ARCUDI, III
Louis J. Arcudi, III, *Secretary*

, 2008

**CERTIFICATE OF AMENDMENT
TO THE
RESTATED CERTIFICATE OF INCORPORATION
OF
IDERA PHARMACEUTICALS, INC.**

Idera Pharmaceuticals, Inc. (hereinafter called the "Corporation"), organized and existing under and by virtue of the General Corporation Law of the State of Delaware, does hereby certify as follows:

By action of the Board of Directors of the Corporation at a meeting held on March 18, 2008, the Board of Directors of the Corporation duly adopted a resolution, pursuant to Section 242 of the General Corporation Law of the State of Delaware, setting forth an amendment to the Restated Certificate of Incorporation of the Corporation, as amended to date (the "Certificate of Incorporation"), and declaring said amendment to be advisable. The stockholders of the Corporation duly approved said proposed amendment in accordance with Section 242 of the General Corporation Law of the State of Delaware at a meeting of stockholders held on , 2008. The resolution setting forth the amendment is as follows:

RESOLVED: That the first paragraph of Article FOURTH of the Certificate of Incorporation be and hereby is amended and restated in its entirety so that the same shall read as follows:

"FOURTH. The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) Seventy Million (70,000,000) shares of Common Stock, \$.001 par value per share ("Common Stock"), and (ii) Five Million (5,000,000) shares of Preferred Stock, \$.01 par value per share ("Preferred Stock"), which may be issued from time to time in one or more series as set forth in Part B of this Article FOURTH."

IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment to be signed by its duly authorized officer this day of 2008.

IDERA PHARMACEUTICALS, INC.

By: _____
Name:
Title:

IDERA PHARMACEUTICALS, INC.

2008 STOCK INCENTIVE PLAN

1. Purpose

The purpose of this 2008 Stock Incentive Plan (the "Plan") of Idera Pharmaceuticals, Inc., a Delaware corporation (the "Company"), is to advance the interests of the Company's stockholders by enhancing the Company's ability to attract, retain and motivate persons who are expected to make important contributions to the Company and by providing such persons with equity ownership opportunities and performance-based incentives that are intended to better align the interests of such persons with those of the Company's stockholders. Except where the context otherwise requires, the term "Company" shall include any of the Company's present or future parent or subsidiary corporations as defined in Sections 424(e) or (f) of the Internal Revenue Code of 1986, as amended, and any regulations promulgated thereunder (the "Code") and any other business venture (including, without limitation, joint venture or limited liability company) in which the Company has a controlling interest, as determined by the Board of Directors of the Company (the "Board").

2. Eligibility

All of the Company's employees, officers, directors, consultants and advisors are eligible to be granted options, stock appreciation rights ("SARs"), restricted stock, restricted stock units ("RSUs") and other stock-based awards (each, an "Award") under the Plan. Each person who receives an Award under the Plan is deemed a "Participant."

3. Administration and Delegation

(a) *Administration by Board of Directors.* The Plan will be administered by the Board. The Board shall have authority to grant Awards and to adopt, amend and repeal such administrative rules, guidelines and practices relating to the Plan as it shall deem advisable. The Board may construe and interpret the terms of the Plan and any Award agreements entered into under the Plan. The Board may correct any defect, supply any omission or reconcile any inconsistency in the Plan or any Award in the manner and to the extent it shall deem expedient to carry the Plan into effect and it shall be the sole and final judge of such expediency. All decisions by the Board shall be made in the Board's sole discretion and shall be final and binding on all persons having or claiming any interest in the Plan or in any Award. No director or person acting pursuant to the authority delegated by the Board shall be liable for any action or determination relating to or under the Plan made in good faith.

(b) *Appointment of Committees.* To the extent permitted by applicable law, the Board may delegate any or all of its powers under the Plan to one or more committees or subcommittees of the Board (a "Committee"). All references in the Plan to the "Board" shall mean the Board or a Committee of the Board or the officers referred to in Section 3(c) to the extent that the Board's powers or authority under the Plan have been delegated to such Committee or officers.

(c) *Delegation to Officers.* To the extent permitted by applicable law, the Board may delegate to one or more officers of the Company the power to grant Awards (subject to any limitations under the Plan) to employees or officers of the Company or any of its present or future subsidiary corporations and to exercise such other powers under the Plan as the Board may determine, provided that the Board shall fix the terms of the Awards to be granted by such officers (including the exercise price of such Awards, which may include a formula by which the exercise price will be determined) and the maximum number of shares subject to Awards that the officers may grant; provided further, however, that no officer shall be authorized to grant Awards to any "executive officer" of the Company (as defined by Rule 3b-7 under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) or to any "officer" of the Company (as defined by Rule 16a-1 under the Exchange Act).

(d) Awards to Non-Employee Directors. Discretionary Awards to non-employee directors will only be granted and administered by a Committee, all of the members of which are independent as defined by Section 4200(a)(15) of the Nasdaq Marketplace Rules.

4. Stock Available for Awards

(a) Number of Shares; Share Counting.

(1) Authorized Number of Shares. Subject to adjustment under Section 9, Awards may be made under the Plan for up to 3,700,000 shares of common stock, \$0.001 par value per share, of the Company (the "Common Stock"). Shares issued under the Plan may consist in whole or in part of authorized but unissued shares or treasury shares.

(2) Fungible Share Pool. Subject to adjustment under Section 10, any Award that is not a Full-Value Award shall be counted against the share limits specified in Sections 4(a)(1) as one share for each share of Common Stock subject to such Award and any Award that is a Full-Value Award shall be counted against the share limits specified in Sections 4(a)(1) as 1.57 shares for each one share of Common Stock subject to such Full-Value Award. "Full-Value Award" means any Restricted Stock Award or other Stock-Based Award with a per share price or per unit purchase price lower than 100% of Fair Market Value (as defined below) on the date of grant. To the extent a share that was subject to an Award that counted as one share is returned to the Plan pursuant to Section 4(a)(3), each applicable share reserve will be credited with one share. To the extent that a share that was subject to an Award that counts as 1.57 shares is returned to the Plan pursuant to Section 4(a)(3), each applicable share reserve will be credited with 1.57 shares.

(3) Share Counting. For purposes of counting the number of shares available for the grant of Awards under the Plan and under the sub-limit contained in Sections 4(b), (i) all shares of Common Stock covered by independent SARs shall be counted against the number of shares available for the grant of Awards; provided, however, that independent SARs that may be settled in cash only shall not be so counted; (ii) if any Award (A) expires or is terminated, surrendered or canceled without having been fully exercised or is forfeited in whole or in part (including as the result of shares of Common Stock subject to such Award being repurchased by the Company at the original issuance price pursuant to a contractual repurchase right) or (B) results in any Common Stock not being issued (including as a result of an independent SAR that was settleable either in cash or in stock actually being settled in cash), the unused Common Stock covered by such Award shall again be available for the grant of Awards; provided, however, in the case of Incentive Stock Options (as hereinafter defined), the foregoing shall be subject to any limitations under the Code; and provided further, in the case of independent SARs, that the full number of shares subject to any stock-settled SAR shall be counted against the shares available under the Plan and against the sub-limit listed in the first clause of this Section regardless of the number of shares actually used to settle such SAR upon exercise; (iii) shares of Common Stock delivered (either by actual delivery or attestation) to the Company by a Participant to (A) purchase shares of Common Stock upon the exercise of an Award or (B) satisfy tax withholding obligations (including shares retained from the Award creating the tax obligation) shall not be added back to the number of shares available for the future grant of Awards; and (iv) shares of Common Stock repurchased by the Company on the open market using the proceeds from the exercise of an Award shall not increase the number of shares available for future grant of Awards.

(b) Section 162(m) Per-Participant Limit. Subject to adjustment under Section 9, the maximum number of shares of Common Stock with respect to which Awards may be granted to any Participant under the Plan shall be 500,000 per calendar year. For purposes of the foregoing limit, the combination of an Option (as hereafter defined) in tandem with a SAR shall be treated as a single Award. The per Participant limit described in this Section 4(b) shall be construed and applied consistently with Section 162(m) of the Code or any successor provision thereto, and the regulations thereunder ("Section 162(m)").

(c) Substitute Awards. In connection with a merger or consolidation of an entity with the Company or the acquisition by the Company of property or stock of an entity, the Board may grant Awards in substitution for any options or other stock or stock-based awards granted by such entity or an affiliate thereof. Substitute Awards may be granted on such terms as the Board deems appropriate in the circumstances, notwithstanding any limitations on

Awards contained in the Plan. Substitute Awards shall not count against the overall share limit set forth in Section 4(a)(1) or any sub-limits contained in the Plan, except as may be required by reason of Section 422 and related provisions of the Code.

5. Stock Options

(a) General. The Board may grant options to purchase Common Stock (each, an "Option") and determine the number of shares of Common Stock to be covered by each Option, the exercise price of each Option and the conditions and limitations applicable to the exercise of each Option, including conditions relating to applicable federal or state securities laws, as it considers necessary or advisable. An Option that is not intended to be an Incentive Stock Option (as hereinafter defined) shall be designated a "Nonstatutory Stock Option."

(b) Incentive Stock Options. An Option that the Board intends to be an "incentive stock option" as defined in Section 422 of the Code (an "Incentive Stock Option") shall only be granted to employees of Idera Pharmaceuticals, Inc., any of Idera Pharmaceuticals, Inc.'s present or future parent or subsidiary corporations as defined in Sections 424(e) or (f) of the Code, and any other entities the employees of which are eligible to receive Incentive Stock Options under the Code, and shall be subject to and shall be construed consistently with the requirements of Section 422 of the Code. The Company shall have no liability to a Participant, or any other party, if an Option (or any part thereof) that is intended to be an Incentive Stock Option is not an Incentive Stock Option or for any action taken by the Board, including without limitation the conversion of an Incentive Stock Option to a Nonstatutory Stock Option.

(c) Exercise Price. The Board shall establish the exercise price of each Option and specify the exercise price in the applicable option agreement. The exercise price shall be not less than 100% of the Fair Market Value (as defined below) on the date the Option is granted; provided that if the Board approves the grant of an Option with an exercise price to be determined on a future date, the exercise price shall be not less than 100% of the Fair Market Value on such future date.

(d) Duration of Options. Each Option shall be exercisable at such times and subject to such terms and conditions as the Board may specify in the applicable option agreement; provided, however, that no Option will be granted with a term in excess of 10 years.

(e) No Reload Options. No Option granted under the Plan shall contain any provision entitling the Participant to the automatic grant of additional Options in connection with any exercise of the original Option.

(f) Exercise of Option. Options may be exercised by delivery to the Company of a written notice of exercise signed by the proper person or by any other form of notice (including electronic notice) approved by the Board, together with payment in full as specified in Section 5(g) for the number of shares for which the Option is exercised. Shares of Common Stock subject to the Option will be delivered by the Company as soon as practicable following exercise.

(g) Payment Upon Exercise. Common Stock purchased upon the exercise of an Option granted under the Plan shall be paid for as follows:

(1) in cash, by check or by wire transfer, payable to the order of the Company;

(2) except as the Board may otherwise provide in the applicable option agreement, by (i) delivery of an irrevocable and unconditional undertaking by a creditworthy broker to deliver promptly to the Company sufficient funds to pay the exercise price and any required tax withholding or (ii) delivery by the Participant to the Company of a copy of irrevocable and unconditional instructions to a creditworthy broker to deliver promptly to the Company cash or a check sufficient to pay the exercise price and any required tax withholding;

(3) for so long as the Common Stock is registered under the Exchange Act, by delivery (either by actual delivery or attestation) of shares of Common Stock owned by the Participant valued at their fair market value as determined by (or in a manner approved by) the Board ("Fair Market Value"), provided (i) such method of payment is then permitted under applicable law, (ii) such Common Stock, if acquired directly from the Company, was owned by the Participant for such minimum period of time, if any, as may be established by the Board in its discretion and (iii) such Common Stock is not subject to any repurchase, forfeiture, unfulfilled vesting or other similar requirements;

(4) to the extent permitted by applicable law and provided for in the applicable option agreement or approved by the Board, in its sole discretion, by (i) delivery of a promissory note of the Participant to the Company on terms determined by the Board, or (ii) payment of such other lawful consideration as the Board may determine; or

(5) by any combination of the above permitted forms of payment.

(h) Limitation on Repricing. Unless such action is approved by the Company's stockholders: (1) no outstanding Option granted under the Plan may be amended to provide an exercise price per share that is lower than the then-current exercise price per share of such outstanding Option (other than adjustments pursuant to Section 9) and (2) the Board may not cancel any outstanding option (whether or not granted under the Plan) and grant in substitution therefor new Awards under the Plan covering the same or a different number of shares of Common Stock and having an exercise price per share lower than the then-current exercise price per share of the cancelled option.

6. Stock Appreciation Rights

(a) General. The Board may grant Awards consisting of SARs, which entitle the holder, upon exercise, to receive an amount of Common Stock or cash or a combination thereof (such form to be determined by the Board) determined in whole or in part by reference to appreciation, from and after the date of grant, in the fair market value of a share of Common Stock over the exercise price established pursuant to Section 6(c). The date as of which such appreciation is determined shall be the exercise date.

(b) Grants. SARs may be granted in tandem with, or independently of, Options granted under the Plan.

(1) Tandem Awards. When SARs are expressly granted in tandem with Options, (i) the SAR will be exercisable only at such time or times, and to the extent, that the related Option is exercisable (except to the extent designated by the Board in connection with a Reorganization Event) and will be exercisable in accordance with the procedure required for exercise of the related Option; (ii) the SAR will terminate and no longer be exercisable upon the termination or exercise of the related Option, except to the extent designated by the Board in connection with a Reorganization Event and except that a SAR granted with respect to less than the full number of shares covered by an Option will not be reduced until the number of shares as to which the related Option has been exercised or has terminated exceeds the number of shares not covered by the SAR; (iii) the Option will terminate and no longer be exercisable upon the exercise of the related SAR; and (iv) the SAR will be transferable only with the related Option.

(2) Independent SARs. A SAR not expressly granted in tandem with an Option will become exercisable at such time or times, and on such conditions, as the Board may specify in the SAR Award.

(c) Exercise Price. The Board shall establish the exercise price of each SAR and specify it in the applicable SAR agreement. The exercise price shall not be less than 100% of the Fair Market Value on the date the SAR is granted; provided that if the Board approves the grant of a SAR with an exercise price to be determined on a future date, the exercise price shall be not less than 100% of the Fair Market Value on such future date.

(d) Duration of SARs. Each SAR shall be exercisable at such times and subject to such terms and conditions as the Board may specify in the applicable SAR agreement; provided, however, that no SAR will be granted with a term in excess of 10 years.

(e) Exercise of SARs. SARs may be exercised by delivery to the Company of a written notice of exercise signed by the proper person or by any other form of notice (including electronic notice) approved by the Board, together with any other documents required by the Board.

(f) Limitation on Repricing. Unless such action is approved by the Company's stockholders: (1) no outstanding SAR granted under the Plan may be amended to provide an exercise price per share that is lower than the then-current exercise price per share of such outstanding SAR (other than adjustments pursuant to Section 9) and (2) the Board may not cancel any outstanding SAR (whether or not granted under the Plan) and grant in substitution therefor new Awards under the Plan covering the same or a different number of shares of Common Stock and having an exercise price per share lower than the then-current exercise price per share of the cancelled SAR.

7. Restricted Stock; Restricted Stock Units

(a) *General.* The Board may grant Awards entitling recipients to acquire shares of Common Stock ("Restricted Stock"), subject to the right of the Company to repurchase all or part of such shares at their issue price or other stated or formula price (or to require forfeiture of such shares if issued at no cost) from the recipient in the event that conditions specified by the Board in the applicable Award are not satisfied prior to the end of the applicable restriction period or periods established by the Board for such Award. Instead of granting Awards for Restricted Stock, the Board may grant Awards entitling the recipient to receive shares of Common Stock or cash to be delivered at the time such Award vests ("Restricted Stock Units") (Restricted Stock and Restricted Stock Units are each referred to herein as a "Restricted Stock Award").

(b) *Terms and Conditions for All Restricted Stock Awards.* The Board shall determine the terms and conditions of a Restricted Stock Award, including the conditions for vesting and repurchase (or forfeiture) and the issue price, if any.

(c) Additional Provisions Relating to Restricted Stock.

(1) *Dividends.* Participants holding shares of Restricted Stock will be entitled to all ordinary cash dividends paid with respect to such shares, unless otherwise provided by the Board. Unless otherwise provided by the Board, if any dividends or distributions are paid in shares, or consist of a dividend or distribution to holders of Common Stock other than an ordinary cash dividend, the shares, cash or other property will be subject to the same restrictions on transferability and forfeitability as the shares of Restricted Stock with respect to which they were paid. Each dividend payment will be made no later than the end of the calendar year in which the dividends are paid to shareholders of that class of stock or, if later, the 15th day of the third month following the date the dividends are paid to shareholders of that class of stock.

(2) *Stock Certificates.* The Company may require that any stock certificates issued in respect of shares of Restricted Stock shall be deposited in escrow by the Participant, together with a stock power endorsed in blank, with the Company (or its designee). At the expiration of the applicable restriction periods, the Company (or such designee) shall deliver the certificates no longer subject to such restrictions to the Participant or if the Participant has died, to the beneficiary designated, in a manner determined by the Board, by a Participant to receive amounts due or exercise rights of the Participant in the event of the Participant's death (the "Designated Beneficiary"). In the absence of an effective designation by a Participant, "Designated Beneficiary" shall mean the Participant's estate.

(d) Additional Provisions Relating to Restricted Stock Units.

(1) *Settlement.* Upon the vesting of and/or lapsing of any other restrictions (i.e., settlement) with respect to each Restricted Stock Unit, the Participant shall be entitled to receive from the Company one share of Common Stock or an amount of cash equal to the Fair Market Value of one share of Common Stock, as provided in the applicable Award agreement. The Board may, in its discretion, provide that settlement of Restricted Stock Units shall be deferred, on a mandatory basis or at the election of the Participant, in a manner compliant with Section 409A of the Code.

(2) *Voting Rights.* A Participant shall have no voting rights with respect to any Restricted Stock Units.

(3) *Dividend Equivalents.* To the extent provided by the Board, in its sole discretion, a grant of Restricted Stock Units may provide Participants with the right to receive an amount equal to any dividends or other distributions declared and paid on an equal number of outstanding shares of Common Stock ("Dividend Equivalents"). Dividend Equivalents may be paid currently or credited to an account for the Participants, may be settled in cash and/or shares of Common Stock and may be subject to the same restrictions on transfer and forfeitability as the Restricted Stock Units with respect to which paid, as determined by the Board in its sole discretion, subject in each case to such terms and conditions as the Board shall establish, in each case to be set forth in the applicable Award agreement.

8. Other Stock-Based Awards

(a) *General.* Other Awards of shares of Common Stock, and other Awards that are valued in whole or in part by reference to, or are otherwise based on, shares of Common Stock or other property, may be granted hereunder to Participants ("Other Stock-Based-Awards"), including without limitation Awards entitling recipients to receive

shares of Common Stock to be delivered in the future. Such Other Stock-Based Awards shall also be available as a form of payment in the settlement of other Awards granted under the Plan or as payment in lieu of compensation to which a Participant is otherwise entitled. Other Stock-Based Awards may be paid in shares of Common Stock or cash, as the Board shall determine.

(b) *Terms and Conditions.* Subject to the provisions of the Plan, the Board shall determine the terms and conditions of each Other Stock-Based Award, including any purchase price applicable thereto.

9. Adjustments for Changes in Common Stock and Certain Other Events

(a) *Changes in Capitalization.* In the event of any stock split, reverse stock split, stock dividend, recapitalization, combination of shares, reclassification of shares, spin-off or other similar change in capitalization or event, or any dividend or distribution to holders of Common Stock other than an ordinary cash dividend, (i) the number and class of securities available under this Plan, (ii) the share counting rules and sub-limits set forth in Sections 4(a) and 4(b), (iii) the number and class of securities and exercise price per share of each outstanding Option, (iv) the share- and per-share provisions and the exercise price of each SAR, (v) the number of shares subject to and the repurchase price per share subject to each outstanding Restricted Stock Award and (vi) the share- and per-share-related provisions and the purchase price, if any, of each outstanding Other Stock-Based Award, shall be equitably adjusted by the Company (or substituted Awards may be made, if applicable) in the manner determined by the Board. Without limiting the generality of the foregoing, in the event the Company effects a split of the Common Stock by means of a stock dividend and the exercise price of and the number of shares subject to an outstanding Option are adjusted as of the date of the distribution of the dividend (rather than as of the record date for such dividend), then an optionee who exercises an Option between the record date and the distribution date for such stock dividend shall be entitled to receive, on the distribution date, the stock dividend with respect to the shares of Common Stock acquired upon such Option exercise, notwithstanding the fact that such shares were not outstanding as of the close of business on the record date for such stock dividend.

(b) *Reorganization Events.*

(1) *Definition.* A "Reorganization Event" shall mean: (a) any merger or consolidation of the Company with or into another entity as a result of which all of the Common Stock of the Company is converted into or exchanged for the right to receive cash, securities or other property or is cancelled, (b) any exchange of all of the Common Stock of the Company for cash, securities or other property pursuant to a share exchange transaction or (c) any liquidation or dissolution of the Company.

(2) *Consequences of a Reorganization Event on Awards Other than Awards of Restricted Stock.* In connection with a Reorganization Event, the Board may take any one or more of the following actions as to all or any (or any portion of) outstanding Awards other than Awards of Restricted Stock on such terms as the Board determines: (i) provide that Awards shall be assumed, or substantially equivalent Awards shall be substituted, by the acquiring or succeeding corporation (or an affiliate thereof), (ii) upon written notice to a Participant, provide that the Participant's unexercised Awards will terminate immediately prior to the consummation of such Reorganization Event unless exercised by the Participant within a specified period following the date of such notice, (iii) provide that outstanding Awards shall become exercisable, realizable, or deliverable, or restrictions applicable to an Award shall lapse, in whole or in part prior to or upon such Reorganization Event, (iv) in the event of a Reorganization Event under the terms of which holders of Common Stock will receive upon consummation thereof a cash payment for each share surrendered in the Reorganization Event (the "Acquisition Price"), make or provide for a cash payment to a Participant equal to the excess, if any, of (A) the Acquisition Price times the number of shares of Common Stock subject to the Participant's Awards (to the extent the exercise price does not exceed the Acquisition Price) over (B) the aggregate exercise price of all such outstanding Awards and any applicable tax withholdings, in exchange for the termination of such Awards, (v) provide that, in connection with a liquidation or dissolution of the Company, Awards shall convert into the right to receive liquidation proceeds (if applicable, net of the exercise price thereof and any applicable tax withholdings) and (vi) any combination of the foregoing. In taking any of the actions permitted under this Section 9(b), the Board shall not be obligated by the Plan to treat all Awards, all Awards held by a Participant, or all Awards of the same type, identically.

For purposes of clause (i) above, an Option shall be considered assumed if, following consummation of the Reorganization Event, the Option confers the right to purchase, for each share of Common Stock subject to the Option immediately prior to the consummation of the Reorganization Event, the consideration (whether cash, securities or other property) received as a result of the Reorganization Event by holders of Common Stock for each share of Common Stock held immediately prior to the consummation of the Reorganization Event (and if holders were offered a choice of consideration, the type of consideration chosen by the holders of a majority of the outstanding shares of Common Stock); provided, however, that if the consideration received as a result of the Reorganization Event is not solely common stock of the acquiring or succeeding corporation (or an affiliate thereof), the Company may, with the consent of the acquiring or succeeding corporation, provide for the consideration to be received upon the exercise of Options to consist solely of common stock of the acquiring or succeeding corporation (or an affiliate thereof) equivalent in value (as determined by the Board) to the per share consideration received by holders of outstanding shares of Common Stock as a result of the Reorganization Event.

(3) *Consequences of a Reorganization Event on Awards of Restricted Stock.* Upon the occurrence of a Reorganization Event other than a liquidation or dissolution of the Company, the repurchase and other rights of the Company under each outstanding Award of Restricted Stock shall inure to the benefit of the Company's successor and shall, unless the Board determines otherwise, apply to the cash, securities or other property which the Common Stock was converted into or exchanged for pursuant to such Reorganization Event in the same manner and to the same extent as they applied to the Common Stock subject to such Award of Restricted Stock. Upon the occurrence of a Reorganization Event involving the liquidation or dissolution of the Company, except to the extent specifically provided to the contrary in the instrument evidencing any Award of Restricted Stock or any other agreement between a Participant and the Company, all restrictions and conditions on all Awards of Restricted Stock then outstanding shall automatically be deemed terminated or satisfied.

10. General Provisions Applicable to Awards

(a) *Transferability of Awards.* Awards shall not be sold, assigned, transferred, pledged or otherwise encumbered by the person to whom they are granted, either voluntarily or by operation of law, except by will or the laws of descent and distribution or, other than in the case of an Incentive Stock Option, pursuant to a qualified domestic relations order, and, during the life of the Participant, shall be exercisable only by the Participant; provided, however, that the Board may permit or provide in an Award for the gratuitous transfer of the Award by the Participant to or for the benefit of any immediate family member, family trust or other entity established for the benefit of the Participant and/or an immediate family member thereof if, with respect to such proposed transferee, the Company would be eligible to use a Form S-8 for the registration of the sale of the Common Stock subject to such Award under the Securities Act of 1933, as amended; provided, further, that the Company shall not be required to recognize any such transfer until such time as the Participant and such permitted transferee shall, as a condition to such transfer, deliver to the Company a written instrument in form and substance satisfactory to the Company confirming that such transferee shall be bound by all of the terms and conditions of the Award. References to a Participant, to the extent relevant in the context, shall include references to authorized transferees.

(b) *Documentation.* Each Award shall be evidenced in such form (written, electronic or otherwise) as the Board shall determine. Each Award may contain terms and conditions in addition to those set forth in the Plan.

(c) *Board Discretion.* Except as otherwise provided by the Plan, each Award may be made alone or in addition or in relation to any other Award. The terms of each Award need not be identical, and the Board need not treat Participants uniformly.

(d) *Termination of Status.* The Board shall determine the effect on an Award of the disability, death, retirement, termination or other cessation of employment, authorized leave of absence or other change in the employment or other status of a Participant and the extent to which, and the period during which, the Participant, or the Participant's legal representative, conservator, guardian or Designated Beneficiary, may exercise rights under the Award.

(e) *Withholding.* The Participant must satisfy all applicable federal, state, and local or other income and employment tax withholding obligations before the Company will deliver stock certificates or otherwise recognize ownership of Common Stock under an Award. The Company may decide to satisfy the withholding obligations through additional withholding on salary or wages. If the Company elects not to or cannot withhold from other

compensation, the Participant must pay the Company the full amount, if any, required for withholding or have a broker tender to the Company cash equal to the withholding obligations. Payment of withholding obligations is due before the Company will issue any shares on exercise or release from forfeiture of an Award or, if the Company so requires, at the same time as is payment of the exercise price unless the Company determines otherwise. Except as the Board may otherwise provide in an Award, a Participant may satisfy such tax obligations in whole or in part by delivery (either by actual delivery or attestation) of shares of Common Stock, including shares retained from the Award creating the tax obligation, valued at their Fair Market Value; provided, however, except as otherwise provided by the Board, that the total tax withholding where stock is being used to satisfy such tax obligations cannot exceed the Company's minimum statutory withholding obligations (based on minimum statutory withholding rates for federal and state tax purposes, including payroll taxes, that are applicable to such supplemental taxable income). Shares used to satisfy tax withholding requirements cannot be subject to any repurchase, forfeiture, unfulfilled vesting or other similar requirements.

(f) Amendment of Award. Except as otherwise provided in Section 5(h) and 6(f) with respect to repricings, Section 10(i) with respect to Performance Awards or Section 11(d) with respect to actions requiring shareholder approval, the Board may amend, modify or terminate any outstanding Award, including but not limited to, substituting therefor another Award of the same or a different type, changing the date of exercise or realization, and converting an Incentive Stock Option to a Nonstatutory Stock Option. The Participant's consent to such action shall be required unless (i) the Board determines that the action, taking into account any related action, would not materially and adversely affect the Participant's rights under the Plan or (ii) the change is permitted under Section 9 hereof.

(g) Conditions on Delivery of Stock. The Company will not be obligated to deliver any shares of Common Stock pursuant to the Plan or to remove restrictions from shares previously delivered under the Plan until (i) all conditions of the Award have been met or removed to the satisfaction of the Company, (ii) in the opinion of the Company's counsel, all other legal matters in connection with the issuance and delivery of such shares have been satisfied, including any applicable securities laws and any applicable stock exchange or stock market rules and regulations, and (iii) the Participant has executed and delivered to the Company such representations or agreements as the Company may consider appropriate to satisfy the requirements of any applicable laws, rules or regulations.

(h) Acceleration. The Board may at any time provide that any Award shall become immediately exercisable in full or in part, free of some or all restrictions or conditions, or otherwise realizable in full or in part, as the case may be.

(i) Performance Awards.

(1) Grants. Restricted Stock Awards and Other Stock-Based Awards under the Plan may be made subject to the achievement of performance goals pursuant to this Section 10(i) ("Performance Awards"), subject to the limit in Section 4(b) on shares covered by such grants.

(2) Committee. Grants of Performance Awards to any Covered Employee intended to qualify as "performance-based compensation" under Section 162(m) ("Performance-Based Compensation") shall be made only by a Committee (or subcommittee of a Committee) comprised solely of two or more directors eligible to serve on a committee making Awards qualifying as "performance-based compensation" under Section 162(m). In the case of such Awards granted to Covered Employees, references to the Board or to a Committee shall be deemed to be references to such Committee or subcommittee. "Covered Employee" shall mean any person who is, or whom the Committee, in its discretion, determines may be, a "covered employee" under Section 162(m) (3) of the Code.

(3) Performance Measures. For any Award that is intended to qualify as Performance-Based Compensation, the Committee shall specify that the degree of granting, vesting and/or payout shall be subject to the achievement of one or more objective performance measures established by the Committee, which shall be based on the relative or absolute attainment of specified levels of one or any combination of the following: (a) earnings per share, (b) return on average equity or average assets with respect to a pre-determined peer group, (c) earnings, (d) earnings growth, (e) revenues, (f) expenses, (g) stock price, (h) market share, (i) return on sales, assets, equity or investment, (j) regulatory compliance, (k) achievement of balance sheet or income statement objectives, (l) total shareholder return (m) net operating profit after tax, (n) pre-tax or after-tax

income, (o) cash flow, (p) achievement of research, development, clinical or regulatory milestones, (q) product sales and (r) business development activities, and may be absolute in their terms or measured against or in relationship to other companies comparably, similarly or otherwise situated. The Committee may specify that such performance measures shall be adjusted to exclude any one or more of (i) extraordinary items, (ii) gains or losses on the dispositions of discontinued operations, (iii) the cumulative effects of changes in accounting principles, (iv) the writedown of any asset, and (v) charges for restructuring and rationalization programs. Such performance measures: (i) may vary by Participant and may be different for different Awards; (ii) may be particular to a Participant or the department, branch, line of business, subsidiary or other unit in which the Participant works and may cover such period as may be specified by the Committee; and (iii) shall be set by the Committee within the time period prescribed by, and shall otherwise comply with the requirements of, Section 162(m). Awards that are not intended to qualify as Performance-Based Compensation may be based on these or such other performance measures as the Board may determine.

(4) *Adjustments.* Notwithstanding any provision of the Plan, with respect to any Performance Award that is intended to qualify as Performance-Based Compensation, the Committee may adjust downwards, but not upwards, the cash or number of Shares payable pursuant to such Award, and the Committee may not waive the achievement of the applicable performance measures except in the case of the death or disability of the Participant or a change in control of the Company.

(5) *Other.* The Committee shall have the power to impose such other restrictions on Performance Awards as it may deem necessary or appropriate to ensure that such Awards satisfy all requirements for Performance-Based Compensation.

11. Miscellaneous

(a) *No Right To Employment or Other Status.* No person shall have any claim or right to be granted an Award, and the grant of an Award shall not be construed as giving a Participant the right to continued employment or any other relationship with the Company. The Company expressly reserves the right at any time to dismiss or otherwise terminate its relationship with a Participant free from any liability or claim under the Plan, except as expressly provided in the applicable Award.

(b) *No Rights As Stockholder.* Subject to the provisions of the applicable Award, no Participant or Designated Beneficiary shall have any rights as a stockholder with respect to any shares of Common Stock to be distributed with respect to an Award until becoming the record holder of such shares.

(c) *Effective Date and Term of Plan.* The Plan shall become effective on the date the Plan is approved by the Company's stockholders (the "Effective Date"). No Awards shall be granted under the Plan after the expiration of 10 years from the Effective Date, but Awards previously granted may extend beyond that date.

(d) *Amendment of Plan.* The Board may amend, suspend or terminate the Plan or any portion thereof at any time provided that (i) to the extent required by Section 162(m), no Award granted to a Participant that is intended to comply with Section 162(m) after the date of such amendment shall become exercisable, realizable or vested, as applicable to such Award, unless and until such amendment shall have been approved by the Company's stockholders if required by Section 162(m) (including the vote required under Section 162(m)); (ii) no amendment that would require stockholder approval under the rules of the NASDAQ Stock Market ("NASDAQ") may be made effective unless and until such amendment shall have been approved by the Company's stockholders; and (iii) if the NASDAQ amends its corporate governance rules so that such rules no longer require stockholder approval of material amendments to equity compensation plans, then, from and after the effective date of such amendment to the NASDAQ rules, no amendment to the Plan (A) materially increasing the number of shares authorized under the Plan (other than pursuant to Section 4(c) or 9), (B) expanding the types of Awards that may be granted under the Plan, or (C) materially expanding the class of participants eligible to participate in the Plan shall be effective unless stockholder approval is obtained. In addition, if at any time the approval of the Company's stockholders is required as to any other modification or amendment under Section 422 of the Code or any successor provision with respect to Incentive Stock Options, the Board may not effect such modification or amendment without such approval. Unless otherwise specified in the amendment, any amendment to the Plan adopted in accordance with this Section 11(d) shall apply to, and be binding on the holders of, all Awards outstanding under the Plan at the time the amendment is

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adopted, provided the Board determines that such amendment does not materially and adversely affect the rights of Participants under the Plan. No Award shall be made that is conditioned upon stockholder approval of any amendment to the Plan.

(e) Provisions for Foreign Participants. The Board may modify Awards granted to Participants who are foreign nationals or employed outside the United States or establish subplans or procedures under the Plan to recognize differences in laws, rules, regulations or customs of such foreign jurisdictions with respect to tax, securities, currency, employee benefit or other matters.

(f) Compliance with Code Section 409A. No Award shall provide for deferral of compensation that does not comply with Section 409A of the Code, unless the Board, at the time of grant, specifically provides that the Award is not intended to comply with Section 409A of the Code. The Company shall have no liability to a Participant, or any other party, if an Award that is intended to be exempt from, or compliant with, Section 409A is not so exempt or compliant or for any action taken by the Board.

(g) Governing Law. The provisions of the Plan and all Awards made hereunder shall be governed by and interpreted in accordance with the laws of the State of Delaware, excluding choice-of-law principles of the law of such state that would require the application of the laws of a jurisdiction other than such state.

IDERA PHARMACEUTICALS, INC.
1995 EMPLOYEE STOCK PURCHASE PLAN

The purpose of this Plan is to provide eligible employees of Idera Pharmaceuticals, Inc. (the "Company") and certain of its subsidiaries with opportunities to purchase shares of the Company's Common Stock (the "Common Stock"). Two Hundred Fifty Thousand (250,000) shares of Common Stock in the aggregate have been approved for this purpose.

1. Administration. The Plan will be administered by the Company's Board of Directors (the "Board") or by a Committee appointed by the Board (the "Committee"). The Board or the Committee has authority to make rules and regulations for the administration of the Plan and its interpretation and decisions with regard thereto shall be final and conclusive.

2. Eligibility. Participation in the Plan will neither be permitted nor denied contrary to the requirements of Section 423 of the Internal Revenue Code of 1986, as amended (the "Code"), and regulations promulgated thereunder. All employees of the Company, including directors who are employees, and all employees of any subsidiary of the Company (as defined in Section 424(f) of the Code) designated by the Board or the Committee from time to time (a "Designated Subsidiary"), are eligible to participate in any one or more of the offerings of Options (as defined below) to purchase Common Stock under the Plan, provided that:

- (a) they are regularly employed by the Company or a Designated Subsidiary for more than 20 hours a week and for more than five months in a calendar year; and
- (b) they have been employed by the Company or a Designated Subsidiary for at least three months prior to enrolling in the Plan; and
- (c) they are employees of the Company or a Designated Subsidiary on the first day of the applicable Plan Period (as defined below).

No employee may be granted an option hereunder if such employee, immediately after the option is granted, owns 5% or more of the total combined voting power or value of the stock of the Company or any subsidiary. For purposes of the preceding sentence, the attribution rules of Section 424(d) of the Code shall apply in determining the stock ownership of an employee, and all stock which the employee has a contractual right to purchase shall be treated as stock owned by the employee.

3. Offerings. The Company will make one or more offerings ("Offerings") to employees to purchase Common Stock under this Plan. The Board or the Committee shall determine the commencement dates of each of the Offerings (the "Offering Commencement Dates"). Each Offering Commencement Date will begin a period (a "Plan Period") during which payroll deductions will be made and held for the purchase of Common Stock at the end of the Plan Period. The Board or the Committee shall choose a Plan Period of twelve (12) months or less for each of the Offerings and may, at its discretion, choose a different Plan Period for each Offering.

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4. Participation. An employee eligible on the Offering Commencement Date of any Offering may participate in such Offering by completing and forwarding a payroll deduction authorization form to the Controller of the Company at least 14 days prior to the applicable Offering Commencement Date. The form will authorize a regular payroll deduction from the Compensation received by the employee during the Plan Period. Unless an employee files a new form or withdraws from the Plan, his deductions and purchases will continue at the same rate for future Offerings under the Plan as long as the Plan remains in effect. The term "Compensation" means the amount of money reportable on the employee's Federal Income Tax Withholding Statement, excluding overtime, shift premium, incentive or bonus awards, allowances and reimbursements for expenses such as relocation allowances for travel expenses, income or gains on the exercise of Company stock options or stock appreciation rights, and similar items, whether or not shown on the employee's Federal Income Tax Withholding Statement, but including, in the case of salespersons, sales commissions to the extent determined by the Board or the Committee.

5. Deductions.

(a) The Company will maintain payroll deduction accounts for all participating employees. With respect to any Offering made under this Plan, an employee may authorize a payroll deduction in any dollar amount up to a maximum of 10% of the Compensation he or she receives during the Plan Period or such shorter period during which deductions from payroll are made. Payroll deductions may be at the rate of 1%, 2%, 3%, 4%, 5%, 6%, 7%, 8%, 9% or 10% of Compensation.

(b) No employee may be granted an Option which permits his rights to purchase Common Stock under this Plan and any other stock purchase plan of the Company and its subsidiaries, to accrue at a rate which exceeds \$25,000 of the fair market value of such Common Stock (determined at the Offering Commencement Date of the Plan Period) for each calendar year in which the Option is outstanding at any time.

6. Deduction Changes. An employee may decrease or discontinue his payroll deduction once during any Plan Period by filing a new payroll deduction authorization form. However, an employee may not increase his payroll deduction during a Plan Period. If an employee elects to discontinue his payroll deductions during a Plan Period, but does not elect to withdraw his funds pursuant to Section 8 hereof, funds deducted prior to his election to discontinue will be applied to the purchase of Common Stock on the Exercise Date (as defined below).

7. Interest. Interest will not be paid on any employee payroll deduction accounts, except to the extent that the Board or its Committee, in its sole discretion, elects to credit such accounts with interest at such per annum rate as it may from time to time determine.

8. Withdrawal of Funds. An employee may on any one occasion during a Plan Period and for any reason withdraw all or part of the balance accumulated in the employee's payroll deduction account. Any such withdrawal must be effected prior to the close of business on the last day of the Plan Period. If the employee withdraws all of such balance, the employee shall thereby withdraw from participation in the Offering and may not begin participation again

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during the remainder of the Plan Period. Any employee withdrawing all or part of such balance may participate in any subsequent Offering in accordance with terms and conditions established by the Board or the Committee, except that, unless otherwise permitted under Section 16 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and the rules promulgated thereunder, any employee who is also a director and/or officer of the Company within the meaning of Section 16 of the Exchange Act may not (a) withdraw less than all of the balance accumulated in such employee's payroll deduction account or (b) participate again for a period of at least six months as provided in Rule 16b-3(d)(2)(i) or any successor provision under the Exchange Act.

9. Purchase of Shares.

(a) On the Offering Commencement Date of each Plan Period, the Company will grant to each eligible employee who is then a participant in the Plan an option (an "Option") to purchase on the last business day of such Plan Period (the "Exercise Date"), at the Option Price hereinafter provided for, such number of whole shares of Common Stock of the Company reserved for the purposes of the Plan as does not exceed the number of shares determined by dividing 15% of such employee's annualized Compensation for the immediately prior six-month period by the price determined in accordance with the formula set forth in the following paragraph but using the closing price on the Offering Commencement Date of such Plan Period.

(b) The Option Price for each share purchased will be 85% of the closing price of the Common Stock on (i) the first business day of such Plan Period or (ii) the Exercise Date, whichever closing price shall be less. Such closing price shall be (A) the closing price of the Common Stock on any national securities exchange on which the Common Stock is listed, or (B) the closing price of the Common Stock on the Nasdaq National Market ("Nasdaq") or (C) the average of the closing bid and asked prices in the over-the-counter market, whichever is applicable, as published in The Wall Street Journal. If no sales of Common Stock were made on such a day, the price of the Common Stock for purposes of clauses (A) and (B) above shall be the reported price for the next preceding day on which sales were made.

(c) Each employee who continues to be a participant in the Plan on the Exercise Date shall be deemed to have exercised his Option at the Option Price on such date and shall be deemed to have purchased from the Company the number of full shares of Common Stock reserved for the purpose of the Plan that his accumulated payroll deductions on such date will pay for pursuant to the formula set forth above (but not in excess of the maximum number determined in the manner set forth above).

(d) Any balance remaining in an employee's payroll deduction account at the end of a Plan Period will be automatically refunded to the employee, except that any balance which is less than the purchase price of one share of Common Stock will be carried forward into the employee's payroll deduction account for the following Offering, unless the employee elects not to participate in the following Offering under the Plan, in which case the balance in the employee's account shall be refunded.

10. Issuance of Certificates. Certificates representing shares of Common Stock purchased under the Plan may be issued only in the name of the employee, in the name of the

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employee and another person of legal age as joint tenants with rights of survivorship, or (in the Company's sole discretion) in the street name of a brokerage firm, bank or other nominee holder designated by the employee.

11. Rights on Retirement, Death or Termination of Employment. In the event of a participating employee's termination of employment prior to the last business day of a Plan Period (whether as a result of the employee's voluntary or involuntary termination, retirement, death or otherwise), no payroll deduction shall be taken from any pay due and owing to the employee and the balance in the employee's payroll deduction account shall be paid to the employee or, in the event of the employee's death, (a) to a beneficiary previously designated in a revocable notice signed by the employee (with any spousal consent required under state law) or (b) in the absence of such a designated beneficiary, to the executor or administrator of the employee's estate or (c) if no such executor or administrator has been appointed to the knowledge of the Company, to such other person(s) as the Company may, in its discretion, designate. If, prior to the last business day of the Plan Period, the Designated Subsidiary by which an employee is employed shall cease to be a subsidiary of the Company, or if the employee is transferred to a subsidiary of the Company that is not a Designated Subsidiary, the employee shall be deemed to have terminated employment for the purposes of this Plan.

12. Optionees Not Stockholders. Neither the granting of an Option to an employee nor the deductions from his pay shall constitute such employee a stockholder of the shares of Common Stock covered by an Option under this Plan until such shares have been purchased by and issued to him.

13. Rights Not Transferable. Rights under this Plan are not transferable by a participating employee other than by will or the laws of descent and distribution, and are exercisable during the employee's lifetime only by the employee.

14. Application of Funds. All funds received or held by the Company under this Plan may be combined with other corporate funds and may be used for any corporate purpose.

15. Adjustment in Case of Changes Affecting Common Stock. In the event of a subdivision of outstanding shares of Common Stock, or the payment of a dividend in Common Stock, the number of shares approved for this Plan, and the share limitation set forth in Section 9, shall be increased proportionately, and such other adjustment shall be made as may be deemed equitable by the Board or the Committee. In the event of any other change affecting the Common Stock, such adjustment shall be made as may be deemed equitable by the Board or the Committee to give proper effect to such event.

16. Merger.

(a) If the Company shall at any time merge or consolidate with another corporation and the holders of the capital stock of the Company immediately prior to such merger or consolidation continue to hold at least 80% by voting power of the capital stock of the surviving corporation ("Continuity of Control"), the holder of each Option then outstanding will thereafter be entitled to receive at the next Exercise Date upon the exercise of such Option for each share as to which such Option shall be exercised the securities or property which a holder of

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one share of the Common Stock was entitled to upon and at the time of such merger, and the Board or the Committee shall take such steps in connection with such merger as the Board or the Committee shall deem necessary to assure that the provisions of Section 15 shall thereafter be applicable, as nearly as reasonably may be, in relation to the said securities or property as to which such holder of such Option might thereafter be entitled to receive thereunder.

(b) In the event of a merger or consolidation of the Company with or into another corporation which does not involve Continuity of Control, or of a sale of all or substantially all of the assets of the Company while unexercised Options remain outstanding under the Plan, (i) subject to the provisions of clauses (ii) and (iii), after the effective date of such transaction, each holder of an outstanding Option shall be entitled, upon exercise of such Option, to receive in lieu of shares of Common Stock, shares of such stock or other securities as the holders of shares of Common Stock received pursuant to the terms of such transaction; or (ii) all outstanding Options may be cancelled by the Board or the Committee as of a date prior to the effective date of any such transaction and all payroll deductions shall be paid out to the participating employees; or (iii) all outstanding Options may be cancelled by the Board or the Committee as of the effective date of any such transaction, provided that notice of such cancellation shall be given to each holder of an Option, and each holder of an Option shall have the right to exercise such Option in full based on payroll deductions then credited to his account as of a date determined by the Board or the Committee, which date shall not be less than ten (10) days preceding the effective date of such transaction.

17. Amendment of the Plan. The Board may at any time, and from time to time, amend this Plan in any respect, except that (a) if the approval of any such amendment by the stockholders of the Company is required by Section 423 of the Code or by Rule 16b-3 under the Exchange Act, such amendment shall not be effected without such approval, and (b) in no event may any amendment be made which would cause the Plan to fail to comply with Section 16 of the Exchange Act and the rules promulgated thereunder, as in effect from time to time, or Section 423 of the Code.

18. Insufficient Shares. In the event that the total number of shares of Common Stock specified in elections to be purchased under any Offering plus the number of shares purchased under previous Offerings under this Plan exceeds the maximum number of shares issuable under this Plan, the Board or the Committee will allot the shares then available on a pro rata basis.

19. Termination of the Plan. This Plan may be terminated at any time by the Board. Upon termination of this Plan all amounts in the payroll deduction accounts of participating employees shall be promptly refunded.

20. Governmental Regulations.

(a) The Company's obligation to sell and deliver Common Stock under this Plan is subject to listing on a national stock exchange or quotation on Nasdaq and the approval of all governmental authorities required in connection with the authorization, issuance or sale of such stock.

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(b) The Plan shall be governed by the laws of the State of Delaware except to the extent that such law is preempted by federal law.

(c) The Plan is intended to comply with the provisions of Rule 16b-3 promulgated under the Exchange Act. Any provision inconsistent with such Rule shall to that extent be inoperative and shall not affect the validity of the Plan.

21. Issuance of Shares. Shares may be issued upon exercise of an Option from authorized but unissued Common Stock, from shares held in the treasury of the Company, or from any other proper source.

22. Notification upon Sale of Shares. Each employee agrees, by entering the Plan, to promptly give the Company notice of any disposition of shares purchased under the Plan where such disposition occurs within two years after the date of grant of the Option pursuant to which such shares were purchased.

23. Effective Date and Approval of Stockholders. The Plan shall take effect upon the closing of the Company's initial public offering of Common Stock pursuant to an effective registration statement under the Securities Act of 1933, as amended, subject to approval by the stockholders of the Company as required by Rule 16b-3 under the Exchange Act and by Section 423 of the Code, which approval must occur within twelve months of the adoption of the Plan by the Board.

FOLD AND DETACH HERE
IDERA PHARMACEUTICALS, INC.

This Proxy when properly executed will be voted in the manner directed by the undersigned stockholder(s). If no indication is made, the proxies shall vote "FOR" the director nominees and "FOR" proposals numbered 2, 3, 4 and 5.

Please mark your votes as indicated in this example

A vote FOR the director nominees and FOR proposals numbered 2, 3, 4 and 5 is recommended by the Board of Directors.

1) Election of Class I Directors

FOR	WITHHELD	FOR ALL EXCEPT
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Nominees:

01 Mr. C. Keith Hartley, 02 Dr. Hans Mueller and 03 Mr. William S. Reardon

If you do not wish your shares voted "FOR" a particular nominee, mark the "For All Except" box and strike a line through the nominee(s)'s name(s) as listed above. Your shares will be voted for the remaining nominee(s).

2. Approval of amendment to our Restated Certificate of Incorporation to increase the authorized common stock from 40,000,000 to 70,000,000 shares

FOR	AGAINST	ABSTAIN
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Approval of our 2008 Stock Incentive Plan

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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4. Approval of amendment to our 1995 Employee Stock Purchase Plan to increase the number of shares of common stock authorized for issuance thereunder from 125,000 shares to 250,000 shares

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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5. Ratification of the selection of Ernst & Young LLP as our independent registered public accountants

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Mark box at right if an address change has been noted on reverse side of this card.

<input type="checkbox"/>

**In their discretion, the proxies are authorized to vote upon
such other business as may properly come before the Annual
Meeting or any adjournment thereof.**

**PLEASE BE SURE TO SIGN
AND DATE THIS PROXY**

Signature _____ Signature _____ Date _____

Please sign this proxy exactly as your name appears hereon. Joint Owners should each sign personally. Trustees and other fiduciaries should indicate the capacity in which they sign. If a corporation or partnership, this signature should be that of an authorized officer who should state his or her title.

▲ FOLD AND DETACH HERE ▲

**WE ENCOURAGE YOU TO TAKE ADVANTAGE OF INTERNET OR TELEPHONE VOTING,
BOTH ARE AVAILABLE 24 HOURS A DAY, 7 DAYS A WEEK:**

**Internet and telephone voting is available through 11:59 PM Eastern Time on the day prior to
the annual meeting day.** Your Internet or telephone vote authorizes the named proxies to vote your
shares in the same manner as if you marked, signed and returned your proxy card.

Internet http://www.proxyvoting.com/IDRA Use the Internet to vote your proxy. Have your proxy card in hand when you access the web site.

OR

Telephone 1-866-540-5760 Use any touch-tone telephone to vote your proxy. Have your proxy card in hand when you call.
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If you vote your proxy by Internet or by telephone, you do NOT need to mail back your proxy card.

To vote by mail, mark, sign and date your proxy card and return it in the enclosed postage-paid envelope.

IDERA PHARMACEUTICALS, INC.

PROXY SOLICITED BY THE BOARD OF DIRECTORS

Annual Meeting of Stockholders — June 4, 2008

Those signing on the reverse side, revoking all prior proxies, hereby appoint(s) Dr. Sudhir Agrawal and Mr. Louis J. Arcudi, III or each or any of them with full power of substitution, as proxies for those signing on the reverse side to act and vote all shares of stock of Idera Pharmaceuticals, Inc. which the undersigned would be entitled to vote if personally present at the 2008 Annual Meeting of Stockholders of Idera Pharmaceuticals, Inc. and at any adjournments thereof as indicated upon all matters referred to on the reverse side and described in the Proxy Statement for the Meeting, and, in their discretion, upon any other matters which may properly come before the Meeting. Attendance of the undersigned at the Meeting or at any adjournment thereof will not be deemed to revoke this proxy unless those signing on the reverse side shall revoke this proxy in writing.

HAS YOUR ADDRESS CHANGED?

**PLEASE VOTE, DATE AND SIGN ON
OTHER SIDE AND RETURN PROMPTLY IN
ENCLOSED ENVELOPE.**