

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

**SCHEDULE 14A
(RULE 14a-101)**

**INFORMATION REQUIRED IN PROXY STATEMENT
SCHEDULE 14A INFORMATION**

**Proxy Statement Pursuant to Section 14(a) of the
Securities Exchange Act of 1934
(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:

5) Total fee paid:

Fee paid previously with preliminary materials.

Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

1) Amount previously paid:

2) Form, Schedule or Registration Statement No.:

3) Filing Party:

4) Date Filed:

IDERA PHARMACEUTICALS, INC.

167 Sidney Street
Cambridge, Massachusetts 02139

NOTICE OF 2012 ANNUAL MEETING OF STOCKHOLDERS

Date and Time: Tuesday, June 12, 2012 at 10:00 a.m., local time

Place: Idera Pharmaceuticals, Inc.
167 Sidney Street
Cambridge, Massachusetts 02139

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

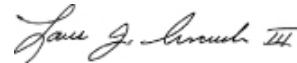
- Elect two Class II Directors to our board of directors for terms to expire at the 2015 annual meeting of stockholders;
- Approve an amendment to our Restated Certificate of Incorporation increasing the number of authorized shares of common stock from 70,000,000 shares to 140,000,000 shares;
- Approve, by non-binding vote, executive compensation;
- Ratify the selection of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2012; and
- Transact any other business as may properly come before the annual meeting or any postponement or adjournment of the annual 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 26, 2012.

Proxy Voting: It is important that your shares be represented and voted at the annual meeting. Whether or not you plan to attend the annual 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 annual meeting.

By order of the board of directors,



Louis J. Arcudi, III
Secretary

Cambridge, Massachusetts
April 27, 2012

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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 12, 2012

Idera Pharmaceuticals, Inc., a Delaware corporation, which is referred to as “we”, “us”, the “Company” or “Idera” in this proxy statement, is sending you this proxy statement and the enclosed proxy card because our board of directors is soliciting your proxy to vote at our 2012 annual meeting of stockholders. The annual meeting will be held on Tuesday, June 12, 2012, at 10:00 a.m., local time, at our principal offices located at 167 Sidney Street, Cambridge, Massachusetts 02139. 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 annual 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 May 9, 2012.

In this mailing, we are also including copies of our annual report to stockholders for the year ended December 31, 2011. Our annual report on Form 10-K for the year ended December 31, 2011, as filed with the Securities and Exchange Commission, or the SEC, 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 where it 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 Notice of Annual Meeting, Proxy Statement and Annual Report on Form 10-K, which we will provide to you free of charge, or to obtain directions to be able to attend the annual meeting and vote in person, write to Investor Relations, Idera Pharmaceuticals, Inc., 167 Sidney Street, Cambridge, Massachusetts, 02139, call our toll-free number 1 (877) 888-6550, or email Investor Relations at ir@iderapharma.com.**

**Important Notice Regarding the Availability of
Proxy Materials for the Annual Meeting of Stockholders
to Be Held on June 12, 2012:**

The Notice of Annual Meeting, Proxy Statement and 2011 Annual Report are available at <http://ir.iderapharma.com/phoenix.zhtml?c=208904&p=proxy>.

INFORMATION ABOUT THE ANNUAL MEETING

Who may vote?

Holders of record of our common stock and our series D convertible preferred stock, or series D preferred stock, at the close of business on April 26, 2012, the record date for the annual meeting, are entitled to vote on each matter properly brought before the annual meeting. Holders of our common stock and our series D preferred stock will vote together as a single class. Holders of our common stock will be entitled to one vote for each share of common stock held as of the record date. Holders of our series D preferred stock will be entitled to five votes for each share of series D preferred stock held as of the record date. The number of votes for each share of series D preferred stock is calculated based on the number of shares of common stock into which each share of series D preferred stock is convertible. As of the close of business on April 26, 2012, the record date for the annual meeting, we had 27,637,728 shares of common stock outstanding and 1,124,260 shares of series D preferred stock outstanding.

How do 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 from within 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 annual meeting. Ballots will be available at the annual meeting.

Your proxy will only be valid if you complete and return the proxy card, vote by telephone or vote by internet at 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, vote by telephone or vote by internet, 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 do 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 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 the ratification of Ernst & Young LLP, our independent registered public accounting firm (Proposal Four), which is considered a discretionary item. However, the election of directors (Proposal One), the approval of the amendment to our Restated Certificate of Incorporation (Proposal Two) and the approval of the advisory vote on executive compensation (Proposal Three) are not considered “discretionary” items. Therefore, if you do not give instructions with respect to these proposals, your shares will be treated as “broker non-votes.” “Broker non-votes” are shares with respect to which a bank or brokerage firm does not receive voting instructions from the beneficial holder and 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 annual meeting. If your shares are held in street name, you may not vote your shares in person at the annual 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 annual meeting to obtain the necessary proxy from the holder of record.

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How may I change or revoke my vote?

If you are a stockholder of record, even if you complete and return a proxy card or vote by telephone or internet, you may change or revoke your vote at any time before your proxy 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 vote;
- deliver to us another signed proxy card with a later date or vote by telephone or by internet; or
- attend the annual 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 or revoking your vote.

What constitutes a quorum?

In order for business to be conducted at the annual meeting, a quorum must be present. A quorum consists of the holders of shares of capital stock representing a majority of the combined voting power of our common stock and our series D preferred stock that is issued, outstanding and entitled to vote at the annual meeting.

Shares of voting 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 annual meeting will be adjourned until a quorum is obtained.

What vote is required to approve each matter?

Election of Directors: Directors will be elected by a plurality of the votes cast by holders of the outstanding shares of our common stock and our series D preferred stock entitled to vote on the election, voting together as a single class. In other words, the two 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 both of the nominees, WITHHOLD your vote from both of the nominees or WITHHOLD your vote from either of the nominees.

Other Matters: The affirmative vote of the holders of shares of our common stock and our series D preferred stock representing a majority of the combined voting power of our common stock and our series D preferred stock entitled to vote at the meeting, voting together as a single class, is needed to approve an amendment to our Restated Certificate of Incorporation to increase the number of authorized shares of common stock (Proposal Two). The affirmative vote of the holders of shares of our common stock and our series D preferred stock representing a majority of the combined voting power of our common stock and our series D preferred stock present or represented and voting, voting together as a single class, will be required for approval of the advisory vote on executive compensation (Proposal Three) and approval of the ratification of the selection of the independent registered public accounting firm (Proposal Four).

Shares that are abstained and broker non-votes will not be counted as votes in favor of these proposals and will also not be counted as votes cast. Accordingly, abstentions and broker non-votes will have no effect on the outcome of any of these proposals.

For so long as the holder of shares of our series D preferred stock and its affiliates beneficially own more than 15% of our outstanding common stock, it and its affiliates will vote any shares held by them in excess of the number of shares equal to 15% of the outstanding common stock (including the shares of common stock issuable upon conversion of the series D preferred stock) with respect to any matter put to a vote of the holders of common stock in the same manner and percentage as the holders of our common stock (other than the holder of our series D preferred stock) vote on such matter.

How will votes be counted?

Each share of common stock will be counted as one vote. As of the record date, each share of series D preferred stock is convertible into five shares of common stock and will be counted as five votes. 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 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, on the advisory vote on executive compensation (Proposal Three) and on the approval of the ratification of the selection of the independent registered accountants (Proposal Four) but will have the same effect as a vote against the amendment to our Restated Certificate of Incorporation (Proposal Two).

How does the board of directors recommend that I vote?

Our board of directors recommends that you vote as follows:

- To elect the two nominees to our board of directors; and
- FOR Proposal Two, Proposal Three and Proposal Four.

Under the Securities Exchange Act and related SEC regulations, the vote on executive compensation (Proposal Three) is an advisory vote, meaning it is non-binding. The vote on the ratification of the selection of Ernst & Young as our independent registered public accounting firm is also advisory. Our board will carefully consider the outcome of each of these votes.

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 annual meeting. If any other matter properly comes before the annual 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 with respect to that matter at the annual meeting.

Who is making and paying for the solicitation of proxies and how is it made?

We are making the solicitation and 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 2013 annual meeting?

If you are interested in submitting a proposal for inclusion in the proxy statement and the proxy card for our 2013 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 January 9, 2013. 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 2013 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, the name of the stockholder proposing such business and stock ownership information for such stockholder. In accordance with our bylaws, we must receive

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this notice at least 60 days, but not more than 90 days, prior to the date of the 2013 annual meeting and the notice must include specified information regarding the proposal and the stockholder making the proposal.

Notwithstanding the foregoing, if we provide less than 70 days notice or prior public disclosure of the date of the annual 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 annual 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.

PROPOSAL ONE — ELECTION OF DIRECTORS

General Information

Our board of directors is divided into three classes and currently consists of two Class I directors: C. Keith Hartley and William S. Reardon, C.P.A.; two Class II directors: Robert W. Karr, M.D., and Malcolm MacCoss, Ph.D.; and three Class III directors: Sudhir Agrawal, D. Phil., Eve E. Slater, M.D. and Youssef El Zein. 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 2014, 2012 and 2013, respectively, and until their respective successors are elected and qualified.

During 2011, Hans Mueller, Ph.D. served on our board of directors as a Class I director and James B. Wyngaarden, M.D. served on our board of directors as a Class II director. Dr. Mueller resigned as a member of our board in September 2011, and Dr. Wyngaarden resigned as a member of our board in February 2012.

Our board of directors, on the recommendation of our nominating and corporate governance committee, has nominated Dr. Karr and Dr. MacCoss for election as Class II directors. The persons named in the enclosed proxy card will vote to elect Dr. Karr and Dr. MacCoss as Class II directors unless you indicate that you withhold authority to vote for the election of any or all nominees. You may not vote for more than two directors. Each Class II director will be elected to hold office until the 2015 annual meeting of stockholders and until his successor is elected and qualified or until his earlier resignation, death or removal. 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 II directors, the names of each of our other continuing directors, the years in which each first became a director, their ages as of March 31, 2012, 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 currently serve, or have served within the past five years, as a director. We have also included information about each director's specific experience, qualifications, attributes or skills that led our board of directors to conclude that such individual should serve as one of our directors. We also believe that all of our directors, including our nominees, have a reputation for integrity, honesty and adherence to high ethical standards. They each have demonstrated business acumen and an ability to exercise sound judgment, as well as a commitment of service to Idera and our board.

Our board of directors recommends that you vote FOR the election of Dr. Karr and Dr. MacCoss as Class II directors.

Class II Nominees — Terms to Expire in 2015

Robert W. Karr, M.D.

Director since 2005

Dr. Karr, age 63, has been Managing Director of Karr Pharma Consulting LLC, a consulting firm serving pharmaceutical and biotechnology clients since January 2008. Dr. Karr served as our President from December 2005 until December 2007. Prior to joining us, Dr. Karr was an independent consultant. From June 2000 through December 2004, Dr. Karr was a senior executive in 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, 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 served on the board of directors of GTx, Inc., a publicly-traded biotechnology company, from 2005 to 2011. We believe that Dr. Karr's qualifications to sit on our board of directors include his broad managerial and scientific experience in the pharmaceutical industry, his understanding of our company given his role as our former President and his continuing role as a director, and his contribution to the board of directors in discussions of our drug discovery programs, clinical development strategy and clinical programs.

Malcolm MacCoss, Ph.D.

Director since 2010

Dr. MacCoss, age 64, joined our board in January 2010. Dr. MacCoss founded Bohicket Pharma Consulting LLC in January 2010. Dr. MacCoss served as the Group Vice President for Chemical Research at the Schering-Plough Research Institute of Schering-Plough Corporation, a pharmaceutical company that is now part of Merck & Co., Inc., from August 2008 to January 2010. In this role he served as the Head of Chemistry at the Schering-Plough Kenilworth, New Jersey site and as the chair of the Schering-Plough Global Chemistry Council, a forum for formulating global chemistry strategies. From 1999 to August 2008, Dr. MacCoss served as Vice President, Basic Chemistry at the Rahway, New Jersey site of Merck Research Laboratories, of Merck & Co., Inc., a pharmaceutical company. He also served as the Vice President of Basic Chemistry and Drug Discovery Sciences, as the Deputy Site-Head of the Rahway site and as the Chairman of the Merck World-Wide Chemistry Council. Dr. MacCoss is a Fellow of the Royal Society of Chemistry, and in 2009 he was admitted into the American Chemical Society Medicinal Chemistry Hall of Fame. He serves on the Advisory Committee of the Executive Dean for the School of Arts and Sciences, Rutgers University, and on the Advisory Board of the Rutgers University Chemistry and Chemical Biology Department. We believe that Dr. MacCoss' qualifications to sit on our board of directors include his extensive scientific background, his 20 plus years experience with pharmaceutical companies, and his contribution to the board of directors in discussions of our drug discovery programs, clinical development strategy and clinical programs.

Continuing Members of the Board of Directors

Class III Directors — Terms to Expire in 2013

Sudhir Agrawal, D. Phil.

Director since 1993

Dr. Agrawal, age 58, has been the chairman of our board of directors since September 2010, our President since September 2008 and our Chief Executive Officer since August 2004. He also served as our Chief Scientific Officer from January 1993 until September 2010, as our President from February 2000 to October 2005 and as Acting Chief Executive Officer from February 2000 until September 2001. Dr. Agrawal joined us in 1990 and served in various capacities before his appointment as Chief Scientific Officer, including Vice President of Discovery and Senior Vice President of Discovery. Prior to joining us, Dr. Agrawal served as a Foundation Scholar at the Worcester Foundation for Experimental Biology and carried out his post-doctoral research at the Medical Research Council's Laboratory of Molecular Biology in Cambridge, England from 1985 to 1986. We believe that Dr. Agrawal's qualifications to sit on our board of directors include his unique insights into our challenges, opportunities and operations that he has as a result of the roles he has played with us since our founding, including scientific founder, chief scientific officer, chief executive officer and chairman.

Eve E. Slater, M.D.

Director since 2010

Dr. Slater, age 66, is currently Associate Professor of Clinical Medicine at Columbia University College of Physicians and Surgeons, where she has taught in various positions since 1983. Dr. Slater was Senior Vice President, Worldwide Policy at Pfizer, Inc. from May 2007 until June 2009. Dr. Slater was the Assistant Secretary for Health, United States Department of Health and Human Services from 2002 until 2003, and was the Acting Assistant Secretary for Health from 2001 until her confirmation by the United States Senate in 2002. Dr. Slater held senior management positions at Merck Research laboratories from 1983 to 2001, including Senior Vice President of External Policy, Vice President of Corporate Public Affairs, Senior Vice President of Clinical and Regulatory Development, Executive Director of Biochemistry and Molecular Biology, and Senior Director of Biochemical Endocrinology. Dr. Slater served as a director of Theravance, Inc., Vertex Pharmaceuticals Incorporated and VaxGen, Inc., in the last five years. Dr. Slater was trained in Internal Medicine and Cardiology at Massachusetts General Hospital, is board certified in Internal Medicine and Cardiology and is a Fellow of the American College of Cardiology. We believe that Dr. Slater's qualifications to sit on our board of directors include her extensive scientific and medical background, significant public company board experience, and years of service with pharmaceutical companies and governmental institutions.

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Youssef El Zein

Director since 1992

Mr. El Zein, age 63, has been managing partner of Pillar Investment Limited, a private investment firm, since 1991, managing partner of Pillar Pharmaceuticals I, L.P., or Pillar, and director and controlling person of Pillar Invest Corporation, each a private investment firm, since 2011 and the Chairman and CEO of PillarInvest (offshore) SAL since 2009. Mr. El Zein obtained a postgraduate degree in Economic Development from Oxford University, where he graduated in 1975. We believe that Mr. El Zein's qualifications to sit on our board of directors include his knowledge of our industry, his financial experience and role in various financings we have conducted, and his 20 years of service on our board of directors.

Class I Directors — Terms to Expire in 2014

C. Keith Hartley

Director since 2000

Mr. Hartley, age 69, 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 publicly traded company that develops flat panel displays. We believe that Mr. Hartley's qualifications to sit on our board of directors include his business and finance background, his investment banking background and knowledge of the capital markets and his relationship with us since 1997 when his investment banking firm led a debt financing for us.

William S. Reardon, C.P.A.

Director since 2002

Mr. Reardon, age 65, has been lead independent director of our board of directors since September 2010. He 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 serves as a director of Synta Pharmaceuticals, Inc., a publicly-traded biopharmaceutical company, and he served as a director of Oscient Pharmaceuticals Corporation, a publicly-traded pharmaceutical company from March 2003 to March 2010. Mr. Reardon has also served as a trustee of closed-end mutual funds H&Q Healthcare Investors and H&Q Life Sciences Investors since April 2010. We believe that Mr. Reardon's qualifications to sit on our board of directors include his accounting and financial experience, including as a partner at a leading accounting firm leading its life science practice, his role in keeping the board of directors and senior management team abreast of current accounting regulations and his experience as a member of several boards of directors of biotechnology companies. Additionally, we value Mr. Reardon's role in leading the Board on matters of corporate governance, both as lead independent director and prior to his appointment to that position.

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 does not receive any compensation for his service on our board of directors, including any compensation he might otherwise receive for his service as chairman of the board of directors. We periodically review our cash and equity-based compensation for non-employee directors.

Under our director compensation program, we pay our non-employee directors retainers in cash. Each director receives a cash retainer for service on the board of directors and for service on each committee on which the director is a member. The chairmen of the board and of each committee receive higher retainers for such service. These fees are payable quarterly in arrears. The fees paid to non-employee directors for service on the board of

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directors and for service on each committee of the board of directors on which the director is a member are as follows:

	<u>Member</u> <u>Annual Fee</u>	<u>Chairman</u> <u>Annual Fee</u>
Board of Directors	\$ 35,000	\$ —
Audit Committee	\$ 7,000	\$ 15,000
Compensation Committee	\$ 7,000	\$ 15,000
Scientific Committee	\$ 7,000	\$ 15,000
Nomination and Corporate Governance Committee	\$ 3,500	\$ 7,500
Service as Lead Director	\$ 17,500	\$ —

We also reimburse our directors for travel and other related expenses for attendance at meetings.

Our director compensation program includes a stock-for-fees policy, under which directors have the right to elect to receive common stock in lieu of cash fees. These shares of common stock are issued under our 2008 Stock Incentive Plan. The number of shares to be issued to participating directors is determined on a quarterly basis by dividing the cash fees to be paid through the issuance of 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. In 2011, Mr. El Zein received 14,932 shares of our common stock in lieu of \$38,181 in cash fees. No other director elected to receive common stock in lieu of cash fees during 2011.

Under our director compensation program, upon their initial election to the board of directors, new non-employee directors receive an initial option grant to purchase 30,000 shares, and all non-employee directors receive an annual option grant to purchase 20,000 shares. The annual grants are made on the date of the annual meeting of stockholders.

These options vest quarterly over three years from the date of grant, subject to continued service as a director, and are granted under our 2008 Stock Incentive Plan. These options are 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.

Under our retirement policy for non-employee members of the board, if a non-employee director is deemed to retire, then

- all outstanding options held by such director will automatically vest in full, and
- the period during which such director may exercise the options will be extended to the expiration of the option under the plan.

Under the policy, a member of the board of directors will be deemed to have retired if:

- the director resigns from the board or determines not to stand for re-election and has served as a director for more than 10 years, or
- the director does not stand for re-election or is not nominated for re-election due to the fact that he or she is or will be older than 75 at the end of such director's term.

In December 2011, in recognition of the increased time commitment associated with membership on the scientific committee, our board increased the annual cash fee paid to members of the scientific committee from \$3,500 to \$7,000 and the annual cash fee paid to the chairman of the scientific committee from \$7,500 to \$15,000, effective as of January 1, 2012. No other changes were made to our director compensation program during 2011.

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The following table sets forth a summary of the compensation we paid to our non-employee directors who served on our board in 2011. Dr. Mueller served on our board until September 2011 and served on the audit committee and the compensation committee from January 2011 to September 2011. Dr. Wyngaarden served on our board until February 2012 and served on the compensation committee throughout 2011.

DIRECTOR COMPENSATION FOR 2011

<u>Name</u>	<u>Fees Earned or Paid in Cash (S)</u>	<u>Option Awards (S)(1)</u>	<u>All Other Compensation (S)</u>	<u>Total (S)</u>
Youssef El Zein	\$ 53,500(2)	\$31,042	—	\$ 84,542
C. Keith Hartley	\$ 49,500	\$31,042	—	\$ 80,542
Robert W. Karr	\$ 45,500	\$31,042	\$ 21,281(3)	\$ 97,823
Malcolm MacCoss	\$ 49,500	\$31,042	\$ 11,125(4)	\$91,667
Hans Mueller (5)	\$ 36,750	\$31,042	—	\$ 67,792
William S. Reardon	\$ 71,000	\$31,042	—	\$102,042
Eve E. Slater	\$ 45,500	\$31,042	—	\$ 76,542
James B. Wyngaarden (6)	\$ 38,500	\$31,042	—	\$ 69,542

- (1) These amounts represent the aggregate grant date fair value of option awards made to each listed director in 2011 as computed in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718, "Stock Compensation" (ASC 718). These amounts do not represent the actual amounts paid to or realized by the directors during 2011. See Note 2(k) to the financial statements in our annual report on Form 10-K for the year ended December 31, 2011 regarding assumptions we made in determining the fair value of option awards. As of December 31, 2011, our non-employee directors held options to purchase shares of our common stock as follows: Mr. El Zein: 85,377; Mr. Hartley: 87,877; Dr. Karr: 165,375; Dr. MacCoss: 46,000; Mr. Reardon: 87,877; Dr. Slater: 36,000; and Dr. Wyngaarden: 85,377.
- (2) Includes cash meeting fees of \$38,181 in lieu of which of Mr. El Zein elected to receive shares of our common stock.
- (3) Represents consulting fees paid to Dr. Karr pursuant to a consulting agreement between us and Dr. Karr that terminated in March 2012.
- (4) Represents consulting fees paid to Dr. MacCoss pursuant to a consulting agreement between us and Dr. MacCoss that expired in December 2011.
- (5) Dr. Mueller resigned as a member of our board of directors in September 2011.
- (6) Dr. Wyngaarden resigned as a member of our board of directors in February 2012.

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 14 times during 2011, including regular, special and telephonic meetings. Except for Dr. Wyngaarden, each director who served as a director during 2011 attended at least 75% of the total number of board meetings held during 2011 while he or she was a director and of the total number of meetings held by all board committees on which he or she served during 2011.

Board Leadership Structure

Our board does not have a policy on whether the offices of chairman of the board and chief executive officer should be separate and, if they are to be separate, whether the chairman of the board should be selected from among the independent directors or should be an employee of the company. Our board believes that it should have the flexibility to make these determinations at any given point in time in the way that it believes best to provide appropriate leadership for our company at that time. The roles of chairman of the board and chief executive officer were held by the same person from August 1991 until February 2000. From February 2000 until September 2010, the positions of chairman of the board of directors and chief executive officer were separate. Since September 2010, the positions of chairman of the board and chief executive officer have both been held by Dr. Agrawal. Concurrent with the appointment of Dr. Agrawal as chairman, Mr. Reardon was appointed as lead independent director.

In September 2010, the nominating and corporate governance committee and the full board discussed whether to appoint a new independent chairman, to unify the chairman and chief executive officer positions and/or to appoint a lead independent director. The committee and the board recognized that the company's bylaws do not require that our chairman and chief executive officer positions be separate, that no single leadership model is right for all companies and at all times, and that depending on the circumstances, other leadership models, such as a combined chairman and chief executive officer, might be appropriate. The committee and the board also noted that pursuant to our corporate governance guidelines, if the chairman is not an independent director, the board may elect a lead director from its independent directors. In such case, the chairman and chief executive officer would consult periodically with the lead director on board matters and on issues facing our company. In addition, the lead director would serve as the principal liaison between the chairman of the board and the independent directors and would preside at any executive session of independent directors.

The nominating and corporate governance committee recommended, and the board approved, Dr. Agrawal, our chief executive officer, as chairman of the board and Mr. Reardon as lead independent director. The board believes that Dr. Agrawal's deep knowledge of our industry and our company, his scientific leadership of our company since 1990 and his strategic leadership of the company make him best suited to serve as both chairman and chief executive officer. At the same time, the board believes that the lead independent director function and its committees of independent directors provide the appropriate level of independent oversight. The board also believes that the lead independent director position includes responsibilities similar to those performed by a chairman of the board of directors who is not also the company's chief executive officer. The Board believes that Mr. Reardon, as lead independent director, provides appropriate balance as a corporate governance matter and that the current structure is in the best interest of stockholders at this time.

Board's Role in Risk Oversight

Our board of directors, as a whole, has responsibility for risk oversight, with reviews of certain areas being conducted by relevant committees that report directly to the board of directors. The oversight responsibility of the board of directors and its committees is enabled by management reporting processes that are designed to

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provide visibility to the board of directors about the identification, assessment and management of critical risks and management's risk mitigation strategies. These areas of focus include competitive, economic, operational, financial (accounting, credit, liquidity and tax), legal, regulatory, compliance, health, safety, environmental, political and reputational risks. Our board of directors regularly reviews information regarding our strategy, operations, credit and liquidity, as well as the risks associated with each. Our compensation committee is responsible for overseeing risks relating to our executive compensation plans and arrangements. Our audit committee is responsible for overseeing financial risks and risks associated with related party transactions. Our nominating and corporate governance committee is responsible for overseeing risks associated with the independence of the board of directors. While each committee is responsible for evaluating certain risks and overseeing the management of such risks, our entire board of directors is regularly informed through committee reports about such risks.

Board Committees

Our board of directors has established four standing committees: audit, compensation, nominating and corporate governance and scientific. Each of our audit, compensation and nominating and corporate governance committees operates under a charter that has been approved by our board of directors. Our board of directors has adopted corporate governance guidelines to assist our board in the exercise of its duties and responsibilities. Current copies of the charters for the audit, compensation and nominating and corporate governance committees and the corporate governance guidelines are 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;
- meeting independently with our registered public accounting firm and management; and
- Preparing the audit committee report required by SEC rules, which is included in the section of this proxy statement entitled "Accounting Matters — Report of the Audit Committee."

The current members of our audit committee are Mr. Reardon (Chairman), Mr. Hartley and Dr. Karr. Our board of directors has determined that all three members of the audit committee are "audit committee financial experts" within the meaning of SEC rules and regulations. During 2011, our audit committee held six 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 executive officers;

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- determining the compensation of our senior executives;
- overseeing the evaluation of our 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 rules, which is included in the section of this proxy statement entitled “Executive Compensation — Compensation Committee Report.”

The current members of our compensation committee are Mr. El Zein (Chairman), Dr. MacCoss, and Dr. Slater. During 2011, the compensation committee held six 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 heading “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 the persons 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 current members of our nominating and corporate governance committee are Mr. Hartley (Chairman), Mr. El Zein and Mr. Reardon. During 2011, the nominating and corporate governance committee held three 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 Nomination Process.”

Scientific Committee

The responsibilities of our scientific committee include:

- assisting the board of directors in overseeing our science and drug development programs; and
- advising the board of directors with respect to strategic and tactical scientific issues.

The current members of our scientific committee are Dr. MacCoss (Chairman), Dr. Karr and Dr. Slater. During 2011, the scientific committee held three meetings in person or by teleconference.

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. Our board of directors has determined that Mr. Hartley, Dr. Karr, Dr. MacCoss, Mr. Reardon, Dr. Slater and Mr. El Zein and all of the members of each of the audit, compensation and nominating and corporate governance committees are independent as defined under

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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.

Director Nomination 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 has from time to time used 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 corporate governance guidelines also provide that candidates should not be discriminated against on the basis of race, religion, national origin, sex, sexual orientation, disability or any other basis proscribed by law and that our nominating and corporate governance committee should consider the value of diversity of the board of directors when evaluating particular candidates. The committee has not adopted any formal or informal diversity policy and treats diversity as one of the criteria to be considered by the committee. The committee does not assign specific weights to particular criteria that the committee reviews and no particular criterion is a prerequisite for the consideration of any prospective nominee. We believe that the backgrounds and qualifications of our directors, considered as a group, should provide a composite and diverse 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.

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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 in our bylaws, including advance notice requirements. 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. See “Information about the Annual Meeting — How and when may I submit a proposal for the 2013 annual meeting?” for more information about these procedures.

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 (if an independent director) or the lead independent director, if any, 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 or lead independent director, as the case may be, 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 that involve 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 responsible for attending the annual meeting of stockholders. Other than Dr. Wyngaarden, all directors attended the 2011 annual meeting of stockholders.

Compensation Committee Interlocks and Insider Participation

Our compensation committee currently consists of Mr. El Zein, Dr. MacCoss and Dr. Slater. In 2011, Dr. Mueller served on the compensation committee from January 2011 to September 2011. No member of our compensation committee was at any time during 2011, or was formerly, an officer or employee of ours. No member of our compensation committee engaged in any related person transaction involving our company during 2011 other than Mr. El Zein. See “Transactions with Related Persons” for further information about the terms of the transaction involving Mr. El Zein. 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 director or member of our compensation committee.

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Executive Officers of Idera Pharmaceuticals

The following table sets forth the names, ages and positions of our executive officers as of March 31, 2012:

<u>Name</u>	<u>Age</u>	<u>Position</u>
Sudhir Agrawal, D. Phil*	58	Chairman, President and Chief Executive Officer
Louis J. Arcudi, III	51	Senior Vice President of Operations, Chief Financial Officer, Treasurer and Secretary
Timothy M. Sullivan, Ph.D.	57	Vice President of Development Programs and Alliance Management
Robert D. Arbeit, M.D.	64	Vice President, Clinical Development

* Dr. Agrawal is a continuing member of our board of directors. See “Proposal One — Election of Directors” for more information about Dr. Agrawal.

Louis J. Arcudi, III has been our Senior Vice President of Operations since April 2011 and our Chief Financial Officer, Treasurer and Secretary since he joined us in December 2007. Prior to joining us, Mr. Arcudi served as Vice President of Finance and Administration and Treasurer for Peptimmune, Inc., a biotechnology company, from 2003 to 2007. From 2000 to 2003 Mr. Arcudi was Senior Director of Finance and Administration at Genzyme Molecular Oncology Corporation, a division of Genzyme Corporation, a biotechnology company. He was Director of Finance Business Planning and Operations International at Genzyme from 1998 to 2000. Prior to joining Genzyme, he held finance positions with increasing levels of responsibility at Cognex Corporation, a supplier of machine vision systems, Millipore Corporation, a provider of technologies, tools and services for bioscience, research and biopharmaceutical manufacturing, and General Motors Corporation, an automobile manufacturer. Mr. Arcudi received a M.B.A. from Bryant College and a B.S. in accounting and information systems from the University of Southern New Hampshire.

Timothy M. Sullivan, Ph.D., has been our Vice President, Development Programs and Alliance Management since April 2010 and was our Vice President, Development Programs from August 2004 until April 2010. He joined us in 2002 as Senior Director, Preclinical Drug Development. His prior professional experience includes positions as Executive Director of Non-clinical Drug Safety Evaluation for Purdue Pharma L.P., a pharmaceutical company, from 1999 to 2002 and Vice President of Eastern Operations for Oread, Inc., a contract drug development organization, from 1997 to 1999. Prior to 1997, Dr. Sullivan held a variety of technical management roles with other pharmaceutical companies and contract research organizations, including Adria, Battelle, Roma Toxicology Centre, and in veterinary medicine, including International Minerals & Chemical. Dr. Sullivan earned his B.S. in microbiology from Michigan State University in 1975. His graduate studies were at Purdue University, where he earned a M.S. degree in health physics in 1978 and a Ph.D. in toxicology in 1981.

Robert D. Arbeit, M.D., joined us in August 2009 as Vice President, Clinical Development. Prior to joining us, Dr. Arbeit was Vice President, Clinical Development, from July 2007 to July 2009, and Executive Director, Clinical Development, from February 2003 until July 2007, at Paratek Pharmaceuticals, Inc., a pharmaceutical company. Prior to that, from January 2001 to January 2003, he served at Cubist Pharmaceuticals, Inc., a pharmaceutical company, as Executive Medical Director. From 1979 to 2000, Dr. Arbeit held positions with increasing levels of responsibility at the VA Medical Center in Boston, where his last position was Associate Chief of Staff for Research. Dr. Arbeit received his B.A. from Williams College and earned an M.D. at Yale University School of Medicine. He completed a medical residency at Yale-New Haven Hospital, CT and a Clinical Fellowship in Infectious Diseases at Beth Israel Hospital, Boston, MA.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

On January 31, 2012, we had 27,637,007 shares of common stock issued and outstanding and 1,124,260 shares of series D preferred stock issued and outstanding. The following table sets forth information we know about the beneficial ownership of our common stock and our series D preferred stock, as of January 31, 2012, by:

- each person known by us to own beneficially more than 5% of the outstanding shares of our common stock;
- each person known to us to beneficially own more than 5% of the outstanding shares of our series D preferred stock
- each of our directors;
- each of our named executive officers; and
- all directors and executive officers as a group.

<u>Name of Beneficial Owner(2)</u>	<u>Common Stock (1)</u>		<u>Series D Preferred Stock (1)</u>		
	<u>Amount and Nature of Beneficial Ownership of Common Stock</u>	<u>% of Common Stock Beneficially Owned</u>	<u>Amount and Nature of Beneficial Ownership of Series D Preferred Stock</u>	<u>% of Series D Preferred Stock Beneficially Owned</u>	<u>% of Combined Voting Power of Series D Preferred Stock and Common Stock (3)</u>
5% Stockholders					
Pillar Pharmaceuticals I, L.P. c/o Pillar Invest Offshore SAL Starco Ctr Bloc B, 3 rd Flr, Omar Daouk St. Beirut, M8 2020-3313	6,758,377(4)	19.99%	1,124,260(5)	100%	18.66%
Senator Investment Group LP 1330 Avenue of the Americas 26 th Floor New York, NY 10019	3,234,505(6)	11.70%	—	—	9.73%
Merck & Co, Inc. One Merck Drive Whitehouse Station, NJ 08889	1,818,182(7)	6.58%	—	—	5.47%
Directors and Named Executive Officers					
Youssef El Zein	6,758,377(8)	19.99%	1,124,260(9)	100%	18.66%
Sudhir Agrawal, D. Phil.	1,093,776(10)	3.82%	—	—	*
Robert D. Arbeit, M.D.	67,121(11)	*	—	—	*
Louis J. Arcudi, III	213,051(12)	*	—	—	*
C. Keith Hartley	122,060(13)	*	—	—	*
Robert W. Karr, M.D.	145,923(14)	*	—	—	*
Malcolm MacCoss, Ph.D.	23,375(15)	*	—	—	*
William S. Reardon	73,109(16)	*	—	—	*
Eve E. Slater	14,333(17)	*	—	—	*
Timothy M. Sullivan, Ph.D.	243,349(18)	*	—	—	*
All current directors and executive officers as a group (10 individuals)	8,754,474(19)	24.60%	1,124,260(9)	100%	19.35%

* Less than 1%

(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

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or investment power and any shares that the stockholder has the right to acquire within 60 days after January 31, 2012 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) The percentage of the combined voting power of the series D preferred stock and the common stock is calculated by dividing (a) the sum of the total number of shares of common stock outstanding and held by the stockholder and the total number of shares of common stock then issuable upon conversion of the series D preferred stock outstanding and held by the stockholder by (b) the sum of the total number of shares of common stock outstanding and the total number of shares of common stock then issuable upon conversion of the series D preferred stock outstanding. The sum of the total number of shares of common stock outstanding and the total number of shares of common stock then issuable upon conversion of the series D preferred stock outstanding as of January 31, 2012 was 33,258,307.
- (4) Consists of (i) 5,621,300 shares of common stock issuable upon conversion of 1,124,260 shares of series D preferred stock held by Pillar, (ii) 485,600 shares of common stock issuable upon exercise of a warrant to purchase common stock held by Pillar, (iii) 586,101 shares of common stock held directly by Mr. El Zein and (iv) 65,376 shares of common stock subject to outstanding stock options that are exercisable within 60 days after January 31, 2012 held by Mr. El Zein. Excludes 2,325,050 shares of common stock issuable upon exercise of the warrant that are not included as beneficially owned by Pillar in the table above. The warrant cannot be exercised with respect to any portion of the shares, to the extent that such exercise would result in Pillar and its affiliates beneficially owning more than 19.99% of (x) the number of shares of common stock outstanding or (y) the combined voting power of our securities outstanding immediately after giving effect to the issuance of shares of common stock issuable upon exercise of the warrant. Mr. El Zein is a director and controlling stockholder of Pillar Invest Corporation, which is the general partner of Pillar and is a limited partner of Pillar. Pillar and Pillar Invest Corporation expressly disclaim beneficial ownership of any shares of common stock held directly by Mr. El Zein. The information in this footnote is based on a Schedule 13D filed with the SEC on November 14, 2011. Pursuant to the terms of the purchase agreement under which it acquired shares of series D preferred stock, Pillar has agreed that for so long as it and its affiliates beneficially own more than 15% of our outstanding common stock, it and its affiliates will vote any shares held by them in excess of the number of shares equal to 15% of the outstanding common stock (including the shares of common stock issuable upon conversion of the series D preferred stock) with respect to any matter put to a vote of the holders of common stock in the same manner and percentage as the holders of the common stock (other than Pillar) vote on such matter. See “Transactions with Related Persons” for further information about the series D preferred stock and the terms of the purchase agreement between Pillar and us.
- (5) Consists of shares of series D preferred stock held by Pillar.
- (6) As reported on a Schedule 13G filed with the SEC on August 12, 2010. Senator Investment Group LP also holds a warrant exercisable for 1,293,802 shares of common stock that are not included as beneficially owned by Senator Investment Group LP in the table above. The warrant may only be exercised so long as Senator Investment Group LP holds no more than 4.99% of the number of shares of common stock outstanding after such exercise. The limit may be increased to 9.99% upon no less than 61 days notice to Idera. Senator Investment Group LP, a Delaware limited partnership, serves as investment manager to two Delaware limited partnerships, four Cayman Islands limited partnerships, and a Cayman Islands company (collectively, the “Funds”), and as such, has investment discretion with respect to the Funds. The partners of the Funds have the right to participate in the receipt of dividends from, or proceeds from the sale of, the securities reported herein held by the Funds in accordance with their respective ownership interests in the Funds. Senator Investment Group LP disclaims beneficial ownership of the securities.

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- (7) As reported on a Schedule 13G filed with the SEC on December 15, 2006.
- (8) Consists of shares reported under footnote 4 to this table above. Mr. El Zein is a director and controlling stockholder of Pillar Invest Corporation, which is the general partner of Pillar and is a limited partner of Pillar. Accordingly, Mr. El Zein may be deemed to have sole power to direct the voting and disposition of the shares of common stock held directly by Pillar. Mr. El Zein expressly disclaims beneficial ownership of any shares of common stock held directly by Pillar or indirectly by Pillar Invest Corporation, except to the extent of his pecuniary interest therein, if any, by virtue of his ownership interest in Pillar Invest Corporation and his limited partnership interest in Pillar.
- (9) Consists of shares of series D preferred stock held by Pillar. Mr. El Zein is a director and controlling stockholder of Pillar Invest Corporation, which is the general partner of Pillar and is a limited partner of Pillar. Accordingly, Mr. El Zein may be deemed to have sole power to direct the voting and disposition of the shares of series D preferred stock held directly by Pillar. Mr. El Zein expressly disclaims beneficial ownership of any shares of series D preferred stock held directly by Pillar or indirectly by Pillar Invest Corporation.
- (10) Includes 967,499 shares of common stock subject to outstanding stock options that are exercisable within 60 days after January 31, 2012.
- (11) Includes 59,561 shares of common stock subject to outstanding stock options that are exercisable within 60 days after January 31, 2012.
- (12) Includes 207,186 shares of common stock subject to outstanding stock options that are exercisable within 60 days after January 31, 2012.
- (13) Includes 67,876 shares of common stock subject to outstanding stock options that are exercisable within 60 days after January 31, 2012. Also includes 2,434 shares of common stock held in a Defined Benefit Pension Plan, owned and controlled solely by Mr. Hartley.
- (14) Includes 549 shares of common stock held by the Robert W. Karr Revocable Trust. Dr. Karr disclaims beneficial ownership of all shares held in this trust. Also includes 145,374 shares of common stock subject to outstanding stock options that are exercisable within 60 days after January 31, 2012.
- (15) Includes 21,500 shares of common stock subject to outstanding stock options that are exercisable within 60 days after January 31, 2012.
- (16) Includes 67,876 shares of common stock subject to outstanding stock options that are exercisable within 60 days after January 31, 2012.
- (17) Consists of shares of common stock subject to outstanding stock options that are exercisable within 60 days after January 31, 2012.
- (18) Includes 218,435 shares of common stock subject to outstanding stock options that are exercisable within 60 days after January 31, 2012.
- (19) Includes 1,835,016 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 January 31, 2012 and shares reported in clauses (i) and (ii) of the first sentence of footnote 4 to this table above.

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 and who we refer to as “named executive officers.” Our compensation committee makes compensation decisions relating to our executive officers after consultation with our board of directors.

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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 officer's overall compensation to key strategic, financial, research 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 from the time of the grant of the option awards and from the time of achievement of performance milestones, 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.

During 2010 and 2011, our compensation committee engaged Radford Surveys + Consulting, or Radford, to provide advice and recommendations regarding the amount and form of executive compensation, equity incentive programs and compensation generally. Radford did not provide any services to our company other than pursuant to its engagement by the compensation committee.

As part of its engagement, Radford provided data on executive compensation from a peer group of publicly traded companies developed by the committee with Radford in November 2010. The committee selected these companies in the belief that these companies had business life cycles, growth profiles, market capitalizations, products, research and development investment levels and number/capabilities of employees that were comparable to ours. In working with Radford to develop the peer group, the committee and Radford generally targeted companies ranging from one-third to three times Idera's size in terms of number of employees and market capitalization, with lead drug candidates typically in Phase 2 or Phase 3. The companies included in the peer group were:

Achillion Pharmaceuticals, Inc.	Anadys Pharmaceuticals, Inc.	ARIAD Pharmaceuticals, Inc.
ArQule, Inc.	AVI BioPharma, Inc.	BioCryst Pharmaceuticals, Inc.
Celldex Therapeutics, Inc.	Cyclacel Pharmaceuticals, Inc.	Cytokinetics, Incorporated
CytRx Corp.	Dynavax Technologies Corp.	GenVec, Inc.
Infinity Pharmaceuticals, Inc.	Micromet, Inc.	Myrexix, Inc.
Novavax, Inc.	Peregrine Pharmaceuticals, Inc.	Sangamo BioSciences, Inc.
Synta Pharmaceuticals Corp.		

Radford also provided compensation survey data from the Radford Global Life Science Survey, a survey of U.S. biotech companies. Our compensation committee reviews a blend of the peer group and survey data in its determinations regarding executive compensation. We refer to this blended data as the "market compensation data."

Our compensation committee considered this blended data in December 2010 in connection with the establishment of base salaries for 2011, its review of Mr. Arcudi's compensation arrangements and its determination of option grants in December 2011 and January 2012.

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Our compensation committee intends that if the company achieves its goals and the executive performs at the level expected, then the executive should have the opportunity to receive compensation that is competitive with industry norms. Accordingly, our compensation committee generally targets overall compensation for executives towards the 50th percentile of the market compensation data. However, the compensation committee from time to time targets a different percentile for individual elements of compensation or specific individuals based on experience, performance levels and potential performance levels of the executive and changes in duties and responsibilities.

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

- reviews executive officer performance;
- 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 on the performance of all other executive officers;
- consults with an independent compensation consultant;
- holds executive sessions (without our management present);
- reviews information regarding the performance and executive compensation of other companies; and
- reviews all of the foregoing with the board of directors.

Under our annual performance review program for our executives, annual performance goals are determined for our company as a whole and for each executive individually. Annual corporate goals are proposed by management and approved by the compensation committee. These corporate goals target the achievement of specific research, clinical, operational and financial milestones.

Annual individual goals focus on contributions that facilitate the achievement of the corporate goals and are closely aligned with the corporate goals. Individual goals are proposed by each executive and approved by the chief executive officer. 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 individual performance goals of each named executive officer consist primarily of the key objectives and goals from our annual business plan that relate to the functional area for which the named executive officer is responsible. The individual performance goals for the chief executive officer are largely coextensive with the corporate goals.

Generally, at the end of each year, the compensation committee evaluates corporate and individual performance. The compensation committee considers the achievement of the corporate goals and individual performance as factors in determining annual salary increases, annual bonuses and annual stock option awards granted to our executives, although because of their high level of responsibility within our company, the determination of annual bonuses for our executive officers, including our named executive officers, is heavily weighted on our corporate performance. In assessing corporate performance, the committee evaluates corporate performance alongside the approved corporate goals for the year and also evaluates other aspects of corporate performance, including achievements and progress made by the company outside of the corporate goals. In assessing individual performance, the compensation committee evaluates corporate performance in the areas of each officer's responsibility and relies on the chief executive officer's evaluation of each officer. The chief executive officer prepares evaluations of the other executives and in doing so compares individual performance to the individual performance goals. The chief executive officer recommends annual executive salary increases, annual stock option awards and bonuses, if any, which are then reviewed and approved by the compensation committee. In the case of the chief executive officer, the compensation committee conducts his individual performance evaluation. During this process, the compensation committee consults with its compensation consultant and, prior to approving compensation for executive officers, consults with the board of directors.

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The corporate performance goals adopted by the compensation committee for 2011 were:

Clinical Development

- Advance clinical development of IMO-2125 through:
 - presentation of data from a Phase 1 trial in HCV treatment naïve patients at a scientific meeting,
 - initiation and completion of dosing a Phase 2 trial in combination with ribavirin in HCV treatment naïve patients,
 - completion of chronic rat and non-human primate studies and obtain final reports,
 - selection of dosage for future trial in combination with ribavirin and direct acting antivirals in HCV patients, and
 - adoption of future development strategy.
- Advance preclinical/clinical development of IMO-3100 through:
 - presentation of data from a Phase 1 multi-dose trial in healthy subjects at a scientific meeting,
 - completion of non-clinical safety studies to support Phase 2 protocol submission for IMO-3100,
 - initiation of a Phase 2 trial in patients with autoimmune disease, and
 - adoption of future development strategy.
- Advance pre-clinical/clinical development of IMO-4200 through:
 - outlining of development strategy to advance IMO-4200 in hematological malignancies, including timelines for filing IND, and
 - evaluation and commencement of IND enabling studies.

Discovery

- Study efficacy and mechanism of action for IMO-4200 by initiating and completing pre-clinical studies in tumor models for hematological malignancies in combination studies.
- Study efficacy and mechanism of action for IMO-3100 by initiating and completing pre-clinical studies identifying TLR7 and 9 selective antagonists for autoimmune and inflammatory diseases.
- Create and characterize novel TLR3 agonists as vaccine adjuvants.
- Study mechanism of actions of gene silencing oligonucleotides, or GSOs.
- Support ongoing collaborations with Merck KGaA and Merck & Co., along with ongoing work under confidentiality agreements and material transfer agreements.

Corporate

- Enter into a partnership on IMO-2125 or IMO-3100.
- Enter into a partnership on at least one of the following programs: IMO-4200, IMO-2134, TLR3 and GSOs.
- Generate cash resources through financing and/or business development activities so that by the end of 2011 we have two years' worth of cash.
- Support existing strategic and academic collaborators.
- Design a business strategy using GSOs to leverage the discovery asset to create value.
- Obtain access to preclinical and clinical data from Novartis for IMO-2134 and outline development strategy for advancing program in asthma/allergy.

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These corporate performance goals were designed to be challenging goals that the compensation committee believed could be reasonably achieved in 2011.

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 as determined by the compensation committee, typically in the fourth quarter of the applicable year.

The compensation committee does not plan to approve annual equity grants to 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 from the time of the grant of the option awards and from the time of achievement of performance milestones. 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 and our cash resources, determines subjectively what it believes to be the appropriate level and mix of the various compensation components.

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

We entered into a multi-year employment agreement with our chief executive officer, Dr. Agrawal, in October 2005, which was amended in 2008 to ensure compliance with Section 409A of the Internal Revenue Code of 1986, as amended. In August 2011, we entered into an amendment to our employment offer letter with our senior vice president of operations and chief financial officer, Mr. Arcudi, and in December 2011, we entered into an amended and restated employment letter with Mr. Arcudi. 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 typically reviews the market compensation data presented by Radford, considers historic salary levels of the executive officer and the nature of the executive officer’s responsibilities, compares the executive officer’s base salary with those of our other executives and considers the executive officer’s performance. The compensation committee also typically 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 and our financial condition. In assessing the executive officer’s performance, the compensation committee considers the executive officer’s role in the achievement of the annual corporate goals, as well as the performance evaluation prepared by our chief executive officer with respect to such executive officer. The compensation committee considers such evaluation as a means of inform-

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ing the committee's decision as to whether the executive officer's performance was generally consistent with the company's expectations.

In setting base salaries for 2011, which the compensation committee did in December 2010, the compensation committee reviewed the market compensation data presented by Radford. After reviewing such data and taking into consideration the other matters described in the preceding paragraph, the compensation committee determined that, with the exception of Dr. Agrawal, each of the executive officers' annual base salary was competitive with the 50th percentile reflected in the market compensation data. The compensation committee recognized that Dr. Agrawal's base salary was competitive with the 75th percentile, reflecting his tenure and longstanding senior leadership role at the company. As a result, the committee increased salaries for all named executive officers for 2011 by approximately 3.5%, reflecting a cost of living adjustment.

In April 2011, our board appointed Mr. Arcudi as senior vice president of operations. In connection with such promotion, Radford provided the committee with market comparison data for Mr. Arcudi's in light of this additional position. Based on this data, the committee determined to increase his annual base salary to \$315,000 effective May 1, 2011.

In November 2011, the compensation committee set base salaries for 2012. In light of setbacks during 2011 regarding our research and development programs, our board's adoption of new strategic goals for the company in September 2011 and our cash resources, the committee determined that annual base salaries for the named executive officers would not be increased for 2012.

Cash Bonuses

The compensation committee generally structures cash bonuses by linking them to the achievement of the annual corporate goals, corporate performance outside of the corporate goals and individual performance. The amount of the bonus paid, if any, varies among the executive officers depending on individual performance and their contribution to the achievement of our annual corporate goals and corporate performance generally. The compensation committee reviews and assesses corporate goals and individual performance by executive officers and considers the reasons why specific goals have been achieved or have not been achieved. While achievement against the applicable corporate goals is given substantial weight in connection with the determination of annual bonus, consideration is also given to an evaluation of our named executive officers' individual performance based on analysis of achievement of individual performance goals as well as the following subjective criteria:

- leadership,
- management,
- judgment and decision making skills,
- results orientation and
- communication.

No formula is applied to the analysis of the achievement of corporate goals or individual goals by executive officers for purposes of the committee's determination of annual cash bonuses.

In December 2010, the compensation committee determined the bonus targets for the named executive officers for 2011. The committee maintained Dr. Agrawal's bonus target percentage at 70%, consistent with the maximum of the range contained in his employment agreement, and increased the bonus target percentage for all other named executive officers at 30%, which was competitive with the 50th percentile as reflected in the market compensation data.

The compensation committee decided in November 2011 not to grant cash bonuses to the named executive officers in 2011 in light of setbacks during 2011 regarding the company's research and development programs which resulted in the company not achieving many of the corporate performance goals for 2011, our board's adoption of new strategic goals for the company and our cash resources.

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As discussed below, the compensation committee did grant certain performance-based equity awards in order to provide incentives to our named executive officers.

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. In determining the size of equity awards to our executives, our compensation committee considers the achievement of our annual corporate goals, individual performance, the applicable executive officer's previous awards, including the exercise price of such previous awards, the recommendations of management and the market compensation data presented by Radford.

Our equity awards have typically taken the form of stock options. However, under the terms of our stock incentive plan, we may grant equity awards other than stock options, such as restricted stock awards, stock appreciation rights and restricted stock units.

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

The compensation committee typically makes initial stock option awards to new executive officers upon commencement of their employment and annual stock option awards thereafter. Equity awards to our named executive officers are typically granted annually in conjunction with the annual performance review. This review typically occurs at the regularly scheduled meeting of the compensation committee held in the fourth quarter of each year. In general, our option awards vest over four years in 16 equal quarterly installments. The exercise price of stock options equals the fair market value of our common stock on the date of grant, which is typically equal to the closing price of our common stock on NASDAQ on the date of grant.

In November 2011, the compensation committee granted annual option awards to our named executive officers, effective December 5, 2011. In light of setbacks during 2011 regarding our research and development programs and our board's adoption of new strategic goals in September 2011, as well as the committee's determination not to increase salaries for 2012 or grant bonuses for 2011 to our named executive officers, the committee structured these options to retain our named executive officers and to align the interests of our executive officers with the interests of our stockholders in the value creation that could arise beginning in 2012 from the achievement of our new strategic goals. As a result, the committee increased the size of the annual option awards, specifically targeting the 75th percentile of the market compensation data, and linked a portion of the vesting of the option awards to the achievement of specified milestones with the option awards having the following time based vesting and performance vesting components:

- 25% of the shares subject to the option become exercisable over four years in 16 equal quarterly installments with the first installment vesting February 28, 2012;
- 25% of the shares subject to the option become exercisable on November 28, 2012;
- 50% of the shares subject to the option become exercisable upon the achievement of specified performance milestones with 25% of the number of shares corresponding to a particular performance milestone vesting upon achievement of the performance milestone and the balance of such shares vesting in three equal installments on the first, second and third anniversaries of the achievement of such milestone; and
- 100% of the shares subject to the option become exercisable if, upon or within 12 months after a change in control of the company, the named executive officer's employment is terminated by us without cause or the named executive officer terminates his employment for good reason.

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The compensation committee adopted this vesting structure in order to address the following components of incentive compensation:

- our typical annual long-term incentive grant, vesting quarterly over four years;
- a short-term retention grant, vesting in full upon the first anniversary of the grant, which the committee adopted based on the need for executive retention and in recognition that our officers had not received salary increases for 2012 or cash bonuses for 2011; and
- a performance grant, vesting based on the achievement of specified performance milestones modeled on our strategic goals adopted by our board in September 2011.

The performance-based portion of the option awards is tied to nine specified performance milestones. These milestones relate to clinical trials and regulatory processes for our lead compounds, business development transactions and corporate financing. Each milestone must be achieved by a specified date ranging from March 31, 2012 to June 30, 2013 in order to be achieved. The committee designed these milestones to be challenging milestones that the committee believed could be reasonably achieved within the specified timing. Each milestone was weighted and assigned a percentage by the committee such that the achievement of a particular milestone will result in the commencement of vesting of that percentage of the shares subject to the performance-based portion of the option. The total weighting of the milestones equals 125% with the effect that a named executive officer can vest with respect to all of the shares subject to the performance-based portion of the option even if one or more milestones are not achieved. However, even if milestones with aggregate weighting of more than 100% are achieved, the named executive officer will not be entitled to more than 100% of the shares subject to the performance-based portion of the option.

In determining the size of the option awards, the compensation committee reviewed the market compensation data presented by Radford regarding annual option grants on the basis of percentage ownership (as opposed to market value), specifically targeting the 75th percentile of the market compensation data. The committee also considered corporate and individual performance during 2011, the value of options then held by executive officers and our chief executive officer's recommendations with respect to the awards to be made to the other executive officers. On this basis, the committee granted Dr. Agrawal an option to purchase 500,000 shares, Mr. Arcudi an option to purchase 200,000 shares, Dr. Sullivan an option to purchase 150,000 shares and Dr. Arbeit an option to purchase 150,000 shares. In January 2012, the committee granted Dr. Agrawal an additional option to purchase an additional 35,000 shares on the same terms.

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 2011, 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 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 and subject to any limitations in such plans. Each of our named executive officers contributed to our 401(k) plan and their contributions were matched by us.

Our board of directors has adopted a retirement policy to address the treatment of options in the event of an employee's retirement that applies to all employees, including all officers. For purposes of this policy, an employee will be deemed to have retired if the employee terminates his or her employment with us, has been an employee of ours for more than 10 years and is older than 65 upon termination of employment. Under the policy, if an employee retires, then

- all outstanding options held by the employee will automatically vest in full and
- the period during which the employee may exercise the options will be extended to the expiration of the term of the option under the plan.

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Our board adopted this policy for our employees in recognition of the importance of stock options to the compensation of employees and in order that our employees get the full benefit of the options held by them if he or she retires after making 10 years of contributions to the company.

We occasionally pay relocation expenses for newly hired executive officers who we require to relocate as a condition to their employment by us. We also occasionally pay local housing expenses and travel costs for executives who maintain a primary residence outside of a reasonable daily commuting range to our headquarters. We believe that these are typical benefits offered by comparable companies to 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 such assistance. In 2011, Dr. Sullivan received reimbursement for local housing expenses because Dr. Sullivan maintains a primary residence outside of a reasonable daily commuting range to our headquarters.

Our named executive officers also may participate in our employee stock purchase plan, 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, including for this purpose vested and unvested stock options. Due to his stock ownership, Dr. Agrawal is not eligible to participate in the employee stock purchase plan. One of our named executive officers, Dr. Arbeit, participated in the employee stock purchase plan during 2011.

Severance and Change-in-Control Benefits

We currently have an employment agreement with Dr. Agrawal and an employment letter agreement 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.

In December 2011, we entered into an amended and restated employment letter with Mr. Arcudi. In connection with this amendment and restatement, we increased the period of time following termination of employment for which he is entitled to receive severance and healthcare, disability and life insurance benefits from three months to 12 months in connection with a termination by us without cause at any time, and provided severance and healthcare, disability and life insurance benefits for 12 months in connection with termination by Mr. Arcudi for good reason upon or within 12 months after a change of control. The committee agreed to these provisions based in part on market compensation data from Radford.

We believe providing severance and/or change-in-control benefits as a component of our compensation structure that can help us compete for executive talent and 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 per person 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 our 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.

[Table of Contents](#)*Considerations Regarding Non-Binding Advisory Proposal on Executive Compensation*

Our stockholders approved the non-binding advisory proposal on the compensation of our named executive officers with a 98.3% favorable vote at our 2011 annual meeting of stockholders. The compensation committee and our management believe this high level of approval provides strong support to our existing executive compensation philosophy, principles and overall program design.

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 our 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,

Youssef El Zein, Chairman
Malcolm MacCoss
Eve E. Slater

Summary Compensation Table

The table below summarizes compensation paid to or earned by our named executive officers. Our named executive officers have no stock awards, defined benefit pension or non-qualified compensation to report for 2011, 2010 and 2009.

Summary Compensation Table for Fiscal Year 2011

Name and Principal Position	Year	Salary (\$)	Bonus (\$)	Option Awards (\$)(1)	Non-Equity Plan Compensation (2)	All Other Compensation (\$)(3)	Total (\$)
Sudhir Agrawal, D. Phil	2011	\$ 549,000	—	\$ 334,550	—	\$ 30,606	\$ 914,156
Chairman, President and Chief Executive Officer	2010	\$ 530,000	—	\$ 362,795	\$ 260,000	\$ 29,710	\$ 1,182,505
	2009	\$ 510,000	\$ 357,000	\$ 892,350	—	\$ 26,765	\$ 1,786,115
Louis J. Arcudi, III	2011	\$ 310,000	—	\$ 133,820	—	\$ 30,135	\$ 473,955
Senior Vice President of Operations, Chief Financial Officer, Treasurer and Secretary	2010	\$ 290,000	—	\$ 148,476	\$ 55,000	\$ 29,092	\$ 522,568
	2009	\$ 260,000	\$ 70,000	\$ 327,195	—	\$ 25,943	\$ 683,138
Timothy M. Sullivan, Ph.	2011	\$ 299,000	—	\$ 100,365	—	\$ 46,978	\$ 446,343
Vice President, Development Programs and Alliance Management	2010	\$ 289,120	—	\$ 113,247	\$ 51,000	\$ 45,893	\$ 499,260
	2009	\$ 278,000	\$ 65,000	\$ 208,215	—	\$ 40,256	\$ 591,471
Robert D. Arbeit, M.D.	2011	\$ 300,000	—	\$ 100,365	—	\$ 11,913	\$ 412,278
Vice President, Clinical Development	2010	\$ 290,100	—	\$ 112,634	\$ 51,000	\$ 11,766	\$ 465,500

- (1) Represents the aggregate grant date fair value of options granted to each of the named executive officers as computed in accordance with ASC 718. These amounts do not represent the actual amounts paid to or realized by the named executive officers. See Note 2(k) to the financial statements in our annual report on Form 10-K for the year ended December 31, 2011 regarding assumptions we made in determining the fair value of option awards.
- (2) Represents bonuses paid under our cash bonus program based upon the achievement of corporate goals and the specified bonus target for each named executive officer.

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(3) “All Other Compensation” for 2011 for each of the named executive officers includes the following:

	<u>Dr. Agrawal</u>	<u>Mr. Arcudi</u>	<u>Dr. Sullivan</u>	<u>Dr. Arbeit</u>
Premiums paid by us for all insurance plans	\$23,256	\$22,785	\$ 23,017	\$4,563
Company match on 401(k)	\$ 7,350	\$ 7,350	\$ 7,350	\$7,350
Reimbursement for housing expenses	—	—	\$16,611	—

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, as amended, with Dr. Agrawal, our chairman, president and chief executive officer. The agreement had an initial three-year term that 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 each October 19th, the term of the agreement, as extended will be three years. On October 19, 2011, the term was extended from October 19, 2013 to October 19, 2014.

Under the agreement, Dr. Agrawal is currently entitled to receive an annual base salary of \$549,000 or such higher amount as our compensation committee or our board of directors may determine. In addition, under the agreement, Dr. Agrawal is eligible to receive 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.

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;
- 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

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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, all unvested stock options held by Dr. Agrawal will vest in full.

If required by Section 409A of the Internal Revenue Code, the payments we are required to make to Dr. Agrawal for the first six months following termination of his employment under his agreement will be made as a lump sum on the date that is six months and one day following such termination.

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.

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.

Louis J. Arcudi, III

We are a party to an employment letter with Mr. Arcudi, our Senior Vice President of Operations, Chief Financial Officer, Treasurer and Secretary. If we terminate Mr. Arcudi's employment without cause at any time, or if he terminates his employment for good reason upon a change in control or within one year after a change of control, as such terms are defined in the agreement, we have agreed to:

- continue to pay Mr. Arcudi his base salary as severance for twelve months following such termination payable in accordance with our then current payroll practices;
- continue to provide Mr. Arcudi with healthcare, disability and life insurance benefits for twelve months following such termination, except to the extent another employer provides Mr. Arcudi with comparable benefits;

Our agreement to pay severance and benefits is subject to Mr. Arcudi's entering into a separation and release agreement.

If required by Section 409A of the Internal Revenue Code, the payments we are required to make to Mr. Arcudi in the first six months following the termination of his employment under his agreement will be made as a lump sum on the date that is six months and one day following such termination.

Grants of Plan-Based Awards

The following table sets forth information regarding estimated possible payouts under non-equity incentive plan awards and stock options granted to each named executive officer during 2011.

Grants of Plan-Based Awards for Fiscal Year 2011

<u>Name</u>	<u>Grant Date</u>	<u>Estimated Possible Payouts Under Non-Equity Incentive Plan Awards \$(1) (Target)</u>	<u>All Other Option Awards: Number of Securities Underlying Options (#)(2)</u>	<u>Exercise or Base Price of Option Awards (\$/Sh)</u>	<u>Grant Date Fair Value of Option Awards \$(3)</u>
Sudhir Agrawal, D. Phil.	12/5/2011	—	500,000	\$ 1.157	\$ 334,550
		\$ 384,300	—	—	—
Louis J. Arcudi, III	12/5/2011	—	200,000	\$ 1.157	\$ 133,820
		\$ 90,000	—	—	—
Timothy M. Sullivan, Ph.D.	12/5/2011	—	150,000	\$ 1.157	\$ 100,365
		\$ 89,700	—	—	—
Robert D. Arbeit, M.D.	12/5/2011	—	150,000	\$ 1.157	\$ 100,365
		\$ 90,000	—	—	—

- (1) Represents the cash bonus payable at target for 2011 assuming full achievement of the corporate goals. As discussed above under the heading “Compensation Discussion and Analysis — Elements of Compensation — Cash Bonuses”, no bonuses were paid in 2011.
- (2) The stock options granted to each of the named executive officers listed above were granted pursuant to our 2008 Stock Incentive Plan. The term of these options is ten years. The stock options vest based on a combination of performance based vesting and time based vesting. See “Compensation Discussion and Analysis – Elements of Compensation – Equity Compensation” for a full description of the vesting terms for these options.
- See “Agreements with our Named Executive Officers” for further information about acceleration of vesting of Dr. Agrawal’s options in the event of the termination of his employment and/or a change of control.
- (3) Represents the aggregate grant date fair value of option awards made to named executive officers in 2011 as computed in accordance with ASC 718. These amounts do not represent the actual amounts paid to or realized by the named executive officers during 2011. See Note 2(k) to the financial statements in our annual report on Form 10-K for the year ended December 31, 2011 regarding assumptions we made in determining the fair value of option awards.

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Outstanding Equity Awards At Fiscal Year-End

The following table sets forth information regarding the outstanding stock options held by our named executive officers as of December 31, 2011. None of our named executive officers held shares of unvested restricted stock as of December 31, 2011.

Outstanding Equity Awards At Fiscal Year-End for 2011

<u>Name</u>	Number of Securities Underlying Unexercised Options (#)	Number of Securities Underlying Unexercised Options (#)	Option Exercise Price (\$)	Option Expiration Date
	<u>Exercisable</u>	<u>Unexercisable</u>		
Sudhir Agrawal, D. Phil. (1)	31,250	—	\$ 4.16	11/30/2014
	125,000	—	\$ 4.48	5/12/2015
	50,000	—	\$ 5.76	6/1/2015
	37,500	—	\$ 4.24	12/15/2015
	125,000	—	\$ 5.10	12/14/2016
	62,500	—	\$ 7.05	6/25/2017
	117,187(2)	7,813(2)	\$ 13.28	1/2/2018
Louis J. Arcudi, III	150,000(3)	50,000(3)	\$ 8.70	12/16/2018
	150,000(4)	150,000(4)	\$ 5.24	12/23/2019
	57,750(5)	173,250(5)	\$ 2.74	12/27/2020
	—	500,000(6)	\$ 1.157	11/28/2021
	80,000	—	\$ 12.25	12/3/2017
	30,000(3)	10,000(3)	\$ 8.70	12/16/2018
Timothy M. Sullivan, Ph.D.	55,000(4)	55,000(4)	\$ 5.24	12/23/2019
	23,750(5)	71,250(5)	\$ 2.74	12/27/2020
	—	200,000(6)	\$ 1.157	11/28/2021
	7,500	—	\$ 11.28	3/25/2012
	3,750	—	\$ 6.24	12/12/2012
	5,625	—	\$ 8.96	12/16/2013
	58,750	—	\$ 4.16	11/30/2014
Robert D. Arbeit, M.D.	12,500	—	\$ 4.24	12/15/2015
	20,000	—	\$ 5.10	12/14/2016
	23,437(2)	1,563(2)	\$ 13.28	1/2/2018
	26,250(3)	8,750(3)	\$ 8.70	12/16/2018
	35,000(4)	35,000(4)	\$ 5.24	12/23/2019
	18,125(5)	54,375(5)	\$ 2.74	12/27/2020
	—	150,000(6)	\$ 1.157	11/28/2021
22,500(7)	17,500(7)	\$ 6.43	8/3/2019	
8,500(4)	8,500(4)	\$ 5.24	12/23/2019	
18,125(5)	54,375(5)	\$ 2.74	12/27/2020	
—	150,000(6)	\$ 1.157	11/28/2021	

- (1) See “Agreements with our Named Executive Officers” for further information about acceleration of vesting of Dr. Agrawal’s options in the event of the termination of his employment and/or a change of control.
- (2) 6.25% of the shares subject to this option vest quarterly from the date of grant until January 2, 2012 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) 6.25% of the shares subject to this option vest quarterly from the date of grant until December 16, 2012 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.

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- (4) 6.25% of the shares subject to this option vest quarterly from the date of grant until December 23, 2013 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 27, 2014 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) The shares subject to this option vest as follows:
- 25% of the shares vest over four years in 16 equal quarterly installments with the first installment vesting February 28, 2012;
 - 25% of the shares vest on November 28, 2012;
 - 50% of the shares vest upon the achievement of specified performance milestones with 25% of the number of shares corresponding to a particular performance milestone vesting upon achievement of the performance milestone and the balance of such shares vesting in three equal installments on the first, second and third anniversaries of the achievement of such milestone; and
 - 100% of the shares subject to the option vest if, upon or within 12 months after a change in control of the company, the named executive officer's employment is terminated by us without cause or the named executive officer terminates his employment for good reason.
- (7) 6.25% of the shares subject to this option vest quarterly from the date of grant until August 3, 2013 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.

Potential Payments under Termination or Change in Control

We have an employment agreement with Dr. Agrawal that provides for severance benefits and acceleration of vesting of equity awards following a termination of his employment with our company. Additionally, Mr. Arcudi's employment offer letter provides for severance benefits in certain circumstances. These agreements are described above under the caption "Agreements with our Named Executive Officers." Neither Dr. Sullivan nor Dr. Arbeit is entitled to any severance benefits following a termination of his employment with our company. Each of our named executive officers is entitled to acceleration of vesting in connection with a termination of employment upon or within one year after a change in control for the options the compensation committee granted in November 2011, effective December 5, 2011.

Termination of Employment Not in Connection with or following a Change in Control

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) if the named executive officers' employment terminated on December 30, 2011. This table represents estimates only and does 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.

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

<u>Name</u>	<u>Severance Payments (\$)</u>	<u>Bonus Amount (\$)</u>	<u>Value of Accelerated Vesting of Stock Options (\$)</u>	<u>Value of Continuation of Benefits (\$)(1)</u>	<u>Total (\$)</u>
Sudhir Agrawal, D. Phil.(2)	\$ 1,098,000	\$ 260,000	—(3)	\$ 50,915	\$ 1,408,915
Louis J. Arcudi, III(4)	\$ 315,000	—	—	\$ 21,904	\$ 336,904
Timothy M. Sullivan, Ph.D.	—	—	—	—	—
Robert D. Arbeit, M.D.	—	—	—	—	—

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- (1) This amount represents the estimated cost to us of continuing the named executive officer's healthcare, disability, life and dental insurance benefits for the full severance period applicable to such named executive officer based on our costs for such benefits at December 30, 2011.
- (2) Following the termination of Dr. Agrawal's employment by him for good reason or by us other than for death, disability or cause, Dr. Agrawal will be entitled to severance payments, a pro rata portion of his bonus for the prior year, if any, benefits continuation and acceleration of vesting of his equity awards 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. Upon termination of Dr. Agrawal's employment due to death or disability, we have agreed to pay a pro rata portion of his bonus for the prior year and to accelerate the vesting of his equity awards 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. See "Agreements with our Named Executive Officers" for further information about acceleration of vesting and severance payments in such circumstances.
- (3) Calculated by multiplying the number of shares subject to options for which vesting would be accelerated by the difference between \$1.05, the closing price of our common stock on December 30, 2011, and the per share exercise prices for such options. As of December 30, 2011, all of Dr. Agrawal's options had exercise prices that were higher than \$1.05 per share.
- (4) Severance payments and benefits continuation will only be paid to Mr. Arcudi following termination by us without cause. See "Agreements with our Named Executive Officers" for further information about our agreement with Mr. Arcudi.

Termination of Employment In Connection With or Following Change in Control

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 in connection with or following a change in control of the company if the change of control occurred on December 30, 2011 and the named executive officer's employment was immediately terminated. This table represents estimates only and does 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.

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

Name	Severance Payments (S)	Bonus Amount (S)	Value of Accelerated Vesting of Stock Options (S)	Value of Continuation of Benefits (S)(1)	Total (S)
Sudhir Agrawal, D. Phil(2)	\$1,098,000	\$260,000	— (3)	\$ 50,915	\$1,408,915
Louis J. Arcudi, III(4)	\$ 315,000	—	— (3)	\$ 21,904	\$ 336,904
Timothy M. Sullivan, Ph.D.	—	—	— (3)	—	—
Robert D. Arbeit, M.D.	—	—	— (3)	—	—

- (1) Represents the estimated cost to us of continuing the named executive officers' healthcare, disability, life and dental insurance benefits for the applicable severance period based on our costs for such benefits at December 30, 2011.
- (2) Following the termination of Dr. Agrawal's employment in connection with or following a change in control by him for good reason or by us other than for death, disability or cause, Dr. Agrawal will be entitled to a lump sum severance payment, a pro rata portion of his bonus for the prior year, benefits continuation and full

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acceleration of vesting of his option awards. See “Agreements with our Named Executive Officers” for further information about acceleration of vesting and severance payments in such circumstances.

- (3) Calculated by multiplying the number of shares subject to options for which vesting would be accelerated by the difference between \$1.05, the closing price of our common stock on December 30, 2011, and the per share exercise prices for such options. As of December 30, 2011, all of the options subject to acceleration granted to these individuals had an exercise price that was higher than \$1.05 per share.
- (4) Following the termination of Mr. Arcudi’s employment in connection with or following a change in control by him for good reason or by us other than for death, disability or cause, Mr. Arcudi will be entitled to severance payments of his then current base salary and benefits continuation for a twelve-month period, payable in accordance with and at the times contemplated by our then current payroll practices.

EQUITY COMPENSATION PLAN INFORMATION

The following table provides information about our common stock that may be issued upon exercise of options and warrants under all of our equity compensation plans as of December 31, 2011.

<u>Plan Category</u>	<u>Number of Securities to be Issued Upon Exercise of Outstanding Options and Warrants (a)</u>	<u>Weighted-Average Exercise Price of Outstanding Options and Warrants (b)</u>	<u>Number of Securities Remaining Available For Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) (c)</u>
Equity compensation plans approved by stockholders(1)	5,943,759	\$ 4.96	2,194,395
Equity compensation plans not approved by stockholders	—	—	—
Total	5,943,759	\$ 4.96	2,194,395

(1) Consists of our:

- 1995 Employee Stock Purchase Plan;
- 1995 Director Stock Option Plan;
- 1997 Stock Incentive Plan;
- 2005 Stock Incentive Plan; and
- 2008 Stock Incentive Plan.

Shares are available for future issuance only under our 1995 Employee Stock Purchase Plan and our 2008 Stock Incentive Plan.

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

In March 2012, 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 70,000,000 shares to 140,000,000 shares. A copy of the Certificate of Amendment to the Restated Certificate of Incorporation setting forth the amendment is attached to this proxy statement as *Exhibit A*. As of March 31, 2012, we had authorized, outstanding or reserved for issuance the following shares of common stock:

- 27,637,728 shares of common stock outstanding;
- 1,926 shares of common stock reserved for issuance upon conversion of our series A convertible preferred stock;

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- 5,621,300 shares of common stock reserved for issuance upon conversion of our series D convertible preferred stock;
- 4,439,052 shares of common stock reserved for issuance upon exercise of outstanding warrants;
- 5,956,288 shares of common stock reserved for issuance upon exercise of outstanding stock options; and
- 2,168,458 shares of common stock reserved for future issuance under our 2008 Stock Incentive 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.

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.

If this proposal is approved, we intend to file the Certificate of Amendment 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 as set forth in the Certificate of Amendment attached to this proxy as Exhibit A is in the best interests of our company and our stockholders and therefore recommends that stockholders vote FOR the approval of the amendment.

PROPOSAL THREE — NON-BINDING VOTE ON EXECUTIVE COMPENSATION

We are providing our stockholders the opportunity to vote to approve, on an advisory, non-binding basis, the compensation of our named executive officers as disclosed in this proxy statement in accordance with the SEC's rules. This proposal, which is commonly referred to as "say-on-pay," is required by the recently enacted Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, which added Section 14A to the Exchange Act.

Our 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.

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

- base salary;
- annual cash bonuses;
- stock option awards;

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- health care, 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 from the time of the grant of the option awards and from the time of achievement of performance milestones. 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.

The “Executive Compensation” section of this proxy statement beginning on page 28, including “Compensation Discussion and Analysis,” describes in detail our executive compensation programs and the decisions made by the compensation committee and the board of directors with respect to the fiscal year ended December 31, 2011.

Our board of directors is asking stockholders to approve a non-binding advisory vote on the following resolution:

RESOLVED, that the compensation paid to the company’s named executive officers, as disclosed pursuant to the compensation disclosure rules of the Securities and Exchange Commission, including the compensation discussion and analysis, the compensation tables and any related material disclosed in this proxy statement, is hereby approved.

As an advisory vote, this proposal is not binding. The outcome of this advisory vote will not overrule any decision by the company or our board of directors (or any committee thereof), create or imply any change to the fiduciary duties of the company or our board of directors (or any committee thereof), or create or imply any additional fiduciary duties for the company or our board of directors (or any committee thereof). However, our compensation committee and board of directors value the opinions expressed by our stockholders in their vote on this proposal and will consider the outcome of the vote when making future compensation decisions for named executive officers.

The board of directors recommends that stockholders vote to approve the compensation of our named executive officers by voting “FOR” Proposal Three.

PROPOSAL FOUR — 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 fiscal year ending December 31, 2012. Ernst & Young LLP has served as our independent accountants 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 the selection of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2012.

ACCOUNTING MATTERS

Report of the Audit Committee

The audit committee has reviewed our audited financial statements for the fiscal year ended December 31, 2011 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 from Ernst & Young LLP the letter and other written disclosures required by applicable requirements of the Public Company Accounting Oversight Board regarding its communication with the audit committee concerning independence, and has discussed with Ernst & Young LLP its independence from the company. The audit committee has also considered whether the provision of other non-audit services by Ernst & Young LLP is compatible with maintaining 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, 2011.

By the audit committee of the board of directors,

William S. Reardon, *Chairman*

C. Keith Hartley

Robert W. Karr

Independent Registered Public Accounting Firm Fees

We paid Ernst & Young LLP a total of \$384,500 for professional services rendered for the year ended December 31, 2011 and \$414,005 for professional services rendered for the year ended December 31, 2010. The following table provides information about these fees.

<u>Fee Category</u>	<u>2011</u>	<u>2010</u>
Audit Fees	\$361,750	\$377,750
Audit-Related Fees	—	—
Tax Fees	20,750	34,255
All Other Fees	2,000	2,000
Total Fees	<u>\$ 384,500</u>	<u>\$ 414,005</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 consist 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 consultations regarding internal controls, financial accounting and reporting standards.

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Tax Fees

Tax fees consist of fees for tax compliance, tax advice and tax planning services. Tax compliance services, which relate to preparation of tax returns, accounted for \$20,000 and \$19,000 of the total tax fees billed in 2011 and 2010, respectively. Tax advice and tax planning services relate to consultations on our net operating loss carry forwards, collaboration agreements and stock option exercises.

All Other Fees

During fiscal 2011 and 2010, 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 2011 or 2010.

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. All of the services described above under the headings "Audit-Related Fees," "Tax Fees" and "All Other Fees" were pre-approved by our audit committee.

TRANSACTIONS WITH RELATED PERSONS

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 owners 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.

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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, 2011, except as discussed below regarding Pillar, which is currently a greater than 5% stockholder, and Mr. El Zein, a member of our board of directors, we have not entered into or engaged in any related party transactions, as defined by the SEC, with our directors, officers and stockholders who beneficially owned more than 5% of our outstanding common stock, as well as affiliates or immediate family members of those directors, officers and stockholders. Mr. El Zein is a director and controlling stockholder of Pillar Invest Corporation, which is the general partner of Pillar, an investment partnership, and is a limited partner of Pillar. Mr. El Zein has voting and investment control over the securities beneficially owned by Pillar. We believe that the terms of our transactions with Pillar described below were no less favorable than those that we could have obtained from unaffiliated third parties.

In November 2011, we entered into a Convertible Preferred Stock and Warrant Purchase Agreement, or Purchase Agreement, with Pillar. Pursuant to the Purchase Agreement, we issued and sold, for an aggregate purchase price of \$9,500,000, 1,124,260 shares of our series D preferred stock, convertible into 5,621,300 shares of our common stock, and a warrant to purchase up to 2,810,650 shares of our common stock.

Under the terms of the series D preferred stock:

- Pillar is entitled to receive dividends on the series D preferred stock payable quarterly in arrears at the rate of 7% per annum. Such dividends are payable in cash through December 31, 2014 and thereafter in cash or with shares of common stock, as determined by us in our sole discretion, except that we may not pay any dividends to a holder of series D preferred stock in shares of common stock to the extent the issuance of such shares would result in the holder and its affiliates beneficially owning more than 19.99% of our common stock outstanding or the combined voting power of our securities outstanding immediately after giving effect to the issuance of such shares of common stock.
- Each share of series D preferred stock is convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and nonassessable shares of our common stock as is determined by dividing the series D preferred stock original issue price by the series D preferred stock conversion price in effect at the time of conversion. The series D preferred stock conversion price is initially equal to \$1.6275 and the series D preferred stock issue price is initially equal to the \$8.1375 original purchase price of the series D preferred stock. Accordingly, as of the record date, each share of series D preferred stock is convertible at the option of the holder into five fully paid and nonassessable shares of our common stock at a conversion price of \$1.6275 per share. . No holder may convert its shares to the extent such conversion would result in the holder and its affiliates beneficially owning more than 19.99% of the common stock outstanding.
- The series D preferred stock conversion price, and the rate at which shares of series D preferred stock may be converted into shares of common stock, is subject to adjustment in the event that we issue shares of common stock without consideration or for a price per share that is less than \$1.46 (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to our common stock), provided that the series D preferred stock conversion price may not be reduced to a price that is less than \$1.46 (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to our common stock).
- After November 4, 2013 and following notice we may redeem, for cash payment equal to the original series D preferred stock purchase price per share plus any accrued or declared but unpaid dividends thereon, all or a portion of the series D preferred stock if the closing price of the common stock for 20 or more

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trading days in a period of 30 consecutive trading days is greater than or equal to 200% of the series D preferred stock conversion price.

Under the terms of the warrant:

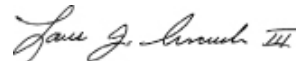
- The warrant is exercisable for common stock at an exercise price of \$1.6275 per share (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to our common stock), and may be exercised at Pillar's option at any time on or before November 4, 2016. The exercise price of the warrant is subject to adjustment in the event that we issue shares of common stock without consideration or for a price per share that is lower than \$1.46 (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the common stock), other than in specified circumstances, provided that the exercise price of the warrant may not be reduced below \$1.46 (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to our common stock).
- The warrant may not be exercised with respect to any portion of the warrant, to the extent that such exercise would result in Pillar and its affiliates beneficially owning more than 19.99% of the number of shares of our common stock outstanding or the combined voting power of our securities outstanding immediately after giving effect to the issuance of shares of common stock issuable upon exercise of the warrant.
- After November 4, 2013, we may redeem the warrant for \$0.01 per share of common stock issuable on exercise of the warrant following notice to the purchaser if the closing price of the common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to \$6.51 (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to our common stock), but we may not redeem the warrant with respect to any portion of the warrant which may not be exercised by Pillar to the extent that such exercise would result in Pillar and its affiliates beneficially owning more than 19.99% of the number of shares of our common stock outstanding or the combined voting power of our securities outstanding immediately after giving effect to the issuance of shares of common stock issuable upon exercise of the warrant.

Under the terms of the Purchase Agreement, we granted Pillar participation rights in certain future financings and Pillar agreed that for so long as it and its affiliates beneficially own more than 15% of our outstanding common stock, it and its affiliates will vote any shares held by them in excess of the number of shares equal to 15% of the outstanding common stock (including the shares of common stock issuable upon conversion of the series D preferred stock) with respect to any matter put to a vote of the holders of common stock in the same manner and percentage as the holders of the common stock (other than Pillar) vote on such matter. Pillar has also agreed to be subject to a standstill provision that continues for so long as it and its affiliates beneficially own more than 15% of the outstanding common stock. In connection with the Purchase Agreement, we also filed a registration statement registering the resale of the shares of common stock issuable upon conversion of the series D preferred stock and the shares of common stock issuable upon exercise of the warrant.

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 2011 all filings required to be made by such individuals or entities were timely made in accordance with the Exchange Act.

By order of the board of directors,



Louis J. Arcudi, III, Secretary

April 27, 2012

**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 27, 2012, 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 _____, 2012. 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) One Hundred Forty Million (140,000,000) 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 _____, 2012.

IDERA PHARMACEUTICALS, INC.

By:
Name:
Title:

YOUR VOTE IS IMPORTANT. PLEASE VOTE TODAY.

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 the day prior to the shareholder meeting date.

Idera Pharmaceuticals, Inc.

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.

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.

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.

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▼ FOLD AND DETACH HERE ▼

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 AND 4.

A VOTE FOR THE DIRECTOR NOMINEES AND FOR PROPOSALS NUMBERED 2, 3 AND 4 IS RECOMMENDED BY THE BOARD OF DIRECTORS.

Please mark your votes as indicated in this example

1. Election of Class II Directors

FOR ALL WITHHOLD ALL FOR ALL EXCEPT

Nominees:

01 Dr. Robert W. Karr

02 Dr. Malcolm MacCoss

INSTRUCTIONS: To withhold authority to vote for any individual nominee(s), mark "For All Except" and write the name of the nominee(s) on the line below.

2. Approval of amendment to Restated Certificate of Incorporation to increase the number of authorized shares of common stock from 70,000,000 shares to 140,000,000 shares.

FOR AGAINST ABSTAIN

3. Approval, by non-binding vote, of executive compensation.

FOR AGAINST ABSTAIN

4. Ratification of the selection of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2012

FOR AGAINST ABSTAIN

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

Mark Here
for Address
Change or
Comments
SEE REVERSE

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RESTRICTED AREA – SCAN LINE

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.

Signature _____

Signature _____

Date _____

▼ FOLD AND DETACH HERE ▼
IDERA PHARMACEUTICALS, INC.
PROXY SOLICITED BY THE BOARD OF DIRECTORS
Annual Meeting of Stockholders — June 12, 2012

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 2012 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 .

Address Change/Comments (Mark the corresponding box on the reverse side)

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

SHAREOWNER SERVICES
P.O. BOX 3550
SOUTH HACKENSACK, NJ 07606-9250

RESTRICTED AREA – SCAN LINE

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RESTRICTED AREA – SIGNATURE LINE