



ALNYLAM PHARMACEUTICALS, INC.
300 THIRD STREET
CAMBRIDGE, MASSACHUSETTS 02142

NOTICE OF 2015 ANNUAL MEETING OF STOCKHOLDERS
To Be Held On May 1, 2015

To our Stockholders:

NOTICE IS HEREBY GIVEN that the 2015 Annual Meeting of Stockholders of Alnylam Pharmaceuticals, Inc. will be held on Friday, May 1, 2015 at 8:30 a.m., Eastern Time, at the offices of Alnylam Pharmaceuticals, Inc., 300 Third Street, Cambridge, Massachusetts. At the meeting, stockholders will consider and act on the following matters:

1. To elect three (3) members to our board of directors, as nominated by our board of directors, each to serve as a Class II director for a term ending in 2018, or until a successor has been duly elected and qualified;
2. To approve our proposed Amended and Restated 2009 Stock Incentive Plan, to, among other things, increase the number of shares authorized for issuance thereunder from 5,900,000 shares to 11,700,000 shares;
3. To approve, on a non-binding advisory basis, the compensation of our named executive officers, as described in the "Compensation Discussion and Analysis," executive compensation tables and accompanying narrative disclosures in this proxy statement;
4. To ratify the appointment of PricewaterhouseCoopers LLP, an independent registered public accounting firm, as our independent auditors for the fiscal year ending December 31, 2015; and
5. To transact any other business that may properly come before the annual meeting or any adjournment or postponement thereof.

Proposal 1 relates solely to the election of three (3) Class II directors nominated by our board of directors and does not include any other matters relating to the election of directors, including without limitation, the election of directors nominated by any stockholder of the company.

Stockholders of record at the close of business on March 4, 2015, the record date for the annual meeting, are entitled to notice of, and to vote at, the annual meeting or any adjournment or postponement thereof. Your vote is important regardless of the number of shares you own. All stockholders are cordially invited to attend the annual meeting in person. However, to assure your representation at the annual meeting, if you are a stockholder of record, please vote in one of these three ways:

- **Vote Over the Internet**, by going to the website of our tabulator, Computershare Trust Company, N.A., at www.investorvote.com/ALNY and following the instructions for Internet voting shown on the enclosed proxy card;
- **Vote by Telephone**, by calling 1-800-652-VOTE (8683) and following the recorded instructions; or
- **Vote by Mail**, by completing and signing your enclosed proxy card and mailing it in the enclosed postage prepaid envelope. If you vote over the Internet or by telephone, please do not mail your proxy.

If your shares are held in "street name," that is, held for your account by a broker or other nominee, you will receive instructions from the holder of record that you must follow for your shares to be voted.

We encourage all stockholders to attend the annual meeting in person. If you vote via the Internet or by telephone or mail your proxy in, you will not limit your right to vote in person at the annual meeting. You may obtain directions to the location of the annual meeting on our website at www.alnylam.com. Whether or not you plan to attend the annual meeting in person, we hope you will take the time to vote your shares.

By Order of the Board of Directors

A handwritten signature in black ink, appearing to read "J. Maraganore", with a long horizontal flourish extending to the right.

John M. Maraganore, Ph.D.
Chief Executive Officer

Cambridge, Massachusetts
March 10, 2015

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ALNYLAM PHARMACEUTICALS, INC.
300 THIRD STREET
CAMBRIDGE, MASSACHUSETTS 02142

PROXY STATEMENT

**for the 2015 Annual Meeting of Stockholders
to be held on May 1, 2015**

This proxy statement and the enclosed proxy card are being furnished in connection with the solicitation of proxies by the board of directors of Alnylam Pharmaceuticals, Inc. for use at the 2015 Annual Meeting of Stockholders to be held on Friday, May 1, 2015 at 8:30 a.m., Eastern Time, at the offices of Alnylam Pharmaceuticals, Inc., 300 Third Street, Cambridge, Massachusetts, and at any adjournment or postponement thereof.

All proxies will be voted in accordance with the instructions contained in those proxies. If no choice is specified, the proxies will be voted in favor of the matters set forth in the accompanying Notice of Meeting.

Our 2015 CEO Letter to Stockholders and Annual Report on Form 10-K for the fiscal year ended December 31, 2014 are being mailed with these proxy materials to all stockholders entitled to vote at the annual meeting. These proxy materials are expected to be first mailed to stockholders on or about March 13, 2015.

**Important Notice Regarding the Availability of Proxy Materials for the Annual
Meeting of Stockholders to be Held on May 1, 2015:**

This proxy statement, our Annual Report on Form 10-K and our 2015 CEO Letter to Stockholders are available for viewing, printing and downloading at www.alnylam.com/AnnualMeeting.

A copy of our Annual Report on Form 10-K for the fiscal year ended December 31, 2014, as filed with the Securities and Exchange Commission, or SEC, on February 13, 2015, will be furnished without charge to any stockholder upon written request to Alnylam Pharmaceuticals, Inc., 300 Third Street, Cambridge, Massachusetts 02142, Attention: Investor Relations and Corporate Communications.

This proxy statement and our Annual Report on Form 10-K for the fiscal year ended December 31, 2014 are also available on the SEC's website at www.sec.gov.

IMPORTANT INFORMATION ABOUT THE ANNUAL MEETING AND VOTING

- Q. Why did I receive these proxy materials?**
- A.** We are providing these proxy materials to you in connection with the solicitation by our board of directors of proxies to be voted at our 2015 annual meeting of stockholders to be held at our offices at 300 Third Street, Cambridge, Massachusetts on Friday, May 1, 2015 at 8:30 a.m., Eastern Time. As a stockholder of Alnylam, you are invited to attend our annual meeting and are entitled and requested to vote on the proposals described in this proxy statement.
- Q. Who can vote at the annual meeting?**
- A.** To be entitled to vote, you must be a stockholder of record at the close of business on March 4, 2015, the record date for our annual meeting. As of the record date, there were 83,990,886 shares of our common stock outstanding.
- If you were a stockholder of record on March 4, 2015, you are entitled to vote all of the shares that you held on that date at the annual meeting and at any postponement or adjournment thereof.
- Q. What are the voting rights of the holders of common stock?**
- A.** Each outstanding share of our common stock will be entitled to one vote on each matter considered at the annual meeting.
- Q. How do I vote?**
- A. If your shares are registered directly in your name,** you may vote:
- (1) **Over the Internet:** Go to the website of our tabulator, Computershare Trust Company, N.A., at www.investorvote.com/ALNY. Use the vote control number printed on your enclosed proxy card to access your account and vote your shares. You must specify how you want your shares voted or your Internet vote cannot be completed and you will receive an error message. Your shares will be voted according to your instructions. You must submit your Internet proxy before 11:59 p.m., Eastern Time, on April 30, 2015, the day before the annual meeting, for your proxy to be valid and your vote to count.
 - (2) **By Telephone:** Call 1-800-652-VOTE (8683), toll free from the United States, United States territories and Canada, and follow the recorded instructions. You must specify how you want your shares voted and confirm your vote at the end of the call or your telephone vote cannot be completed. Your shares will be voted according to your instructions. You must submit your telephonic proxy before 11:59 p.m., Eastern Time, on April 30, 2015, the day before the annual meeting, for your proxy to be valid and your vote to count.
 - (3) **By Mail:** Complete and sign your enclosed proxy card and mail it in the enclosed postage prepaid envelope to Computershare. Computershare must receive the proxy card not later than April 30, 2015, the day before the annual meeting, for your proxy to be valid and your vote to count. Your shares will be voted according to your instructions. If you do not specify how you want your shares voted, the persons named as proxies will follow our board's recommendations and vote your shares:
 - "FOR" the election of all director nominees;
 - "FOR" the approval of our proposed Amended and Restated 2009 Stock Incentive Plan;

- “FOR” the approval, on a non-binding advisory basis, of our named executive officer compensation;
- “FOR” the ratification of the appointment of PricewaterhouseCoopers LLP as our independent auditors for the fiscal year ending December 31, 2015; and
- On any other matters properly brought before the annual meeting, in accordance with the best judgment of the named proxies.

- (4) **In Person at the Meeting:** If you attend the annual meeting, you may deliver your completed proxy card in person or you may vote by completing a ballot, which we will provide to you at the meeting. You may still attend the annual meeting and vote in person even if you have already voted by proxy.

If your shares are held in “street name,” meaning they are held for your account by a bank, broker or other nominee, you should receive a proxy card and voting instructions with these proxy materials from that organization rather than from Alnylam. You will receive instructions from your bank, broker or other nominee explaining how you can vote your shares and whether they permit Internet or telephone voting. Follow the instructions from your bank, broker or other nominee included with these proxy materials, or contact your bank, broker or other nominee to request a proxy form. To vote in person at the annual meeting, contact your bank, broker or other nominee who holds your shares to obtain a broker’s proxy card and bring it with you to the annual meeting. A broker’s proxy is *not* the form of proxy enclosed with this proxy statement. **You will not be able to vote shares you hold in “street name” in person at the annual meeting unless you have a proxy from your bank, broker or other nominee issued in your name giving you the right to vote your shares.**

Q. Can I change my vote?

- A.** If your shares are registered directly in your name, you may revoke your proxy and change your vote at any time before the annual meeting. To do so, you must do one of the following:
- (1) Vote over the Internet or by telephone as instructed above. Only your latest Internet or telephone vote is counted. You may not change your vote over the Internet or by telephone after 11:59 p.m., Eastern Time, on April 30, 2015.
 - (2) Sign a new proxy and submit it as instructed above. Only your latest dated proxy, received by Computershare not later than April 30, 2015, will be counted.
 - (3) Attend the annual meeting, request that your proxy be revoked and vote in person as instructed above. Attending the annual meeting will not revoke your Internet vote, telephone vote or proxy, as the case may be, unless you specifically request it.

If your shares are held in “street name,” you may submit new voting instructions by contacting your bank, broker or other nominee. You may also vote in person at the annual meeting if you obtain a broker’s proxy as described in the answer above.

Q. Will my shares be voted if I do not return my proxy?

- A.** **If your shares are registered directly in your name,** your shares will not be voted if you do not vote over the Internet, by telephone, by returning your proxy or by ballot at the annual meeting.

If your shares are held in “street name,” your bank, broker or other nominee may under certain circumstances vote your shares if you do not timely return your proxy. Banks, brokers and other nominees can vote customers’ unvoted shares on discretionary matters but cannot vote such shares on non-discretionary matters. If you do not timely return a proxy to your bank, broker or other nominee to vote your shares, your bank, broker or other nominee may, on discretionary matters, either vote your shares or leave your shares unvoted. **Your bank, broker or other nominee cannot vote your shares on any non-discretionary matter.**

The election of directors (Proposal 1), the approval of our Amended and Restated 2009 Stock Incentive Plan, which we refer to as the “Amended 2009 Plan” (Proposal 2), and the non-binding advisory vote on executive compensation (Proposal 3) are non-discretionary matters. The ratification of the appointment of our independent auditors (Proposal 4) is a discretionary matter. We encourage you to provide voting instructions to your bank, broker or other nominee by giving your proxy to them. This ensures that your shares will be voted at the annual meeting according to your instructions. You should receive directions from your bank, broker or other nominee about how to submit your proxy to them at the time you receive this proxy statement.

Q. How many shares must be present to hold the annual meeting? **A.** A majority of our outstanding shares of common stock must be present to hold the annual meeting and conduct business. This is called a quorum. For purposes of determining whether a quorum exists, we count as present any shares that are voted over the Internet, by telephone, by completing and submitting a proxy, or that are represented in person at the meeting. Further, for purposes of establishing a quorum, we will count as present shares that a stockholder holds even if the stockholder votes to abstain or only votes on one of the proposals. In addition, we will count as present shares held in “street name” by banks, brokers or nominees who indicate on their proxies that they do not have authority to vote those shares on Proposals 1, 2 and 3. If a quorum is not present, we expect to adjourn the annual meeting until we obtain a quorum.

Q. What vote is required to approve each matter and how are votes counted? **A. Proposal 1 — Election of Three Class II Directors**
The three nominees for Class II director receiving the highest number of votes FOR election will be elected as directors. This is called a plurality. **Proposal 1 is a non-discretionary matter.** Therefore, if your shares are held by your bank, broker or other nominee in “street name” and you do not vote your shares, your bank, broker or other nominee cannot vote your shares on Proposal 1. Shares held in “street name” by banks, brokers or nominees who indicate on their proxies that they do not have authority to vote the shares on Proposal 1 will not be counted as votes FOR or WITHHELD from any nominee and will be treated as “broker non-votes.” As a result, “broker non-votes” will have no effect on the voting on Proposal 1. With respect to Proposal 1, you may:

- vote FOR all nominees;
- vote FOR one or more nominee(s) and WITHHOLD your vote from the other nominee(s); or
- WITHHOLD your vote from all nominees.

Votes that are withheld will not be included in the vote tally for the election of directors and will not affect the results of the vote.

Proposal 2 — Approval of our Amended 2009 Plan

To approve Proposal 2 to, among other things, increase the authorized shares reserved under the Amended 2009 Plan, stockholders holding a majority of the votes cast on the matter must vote FOR the proposal.

Proposal 2 is a non-discretionary matter. Therefore, if your shares are held by your bank, broker or other nominee in “street name” and you do not vote your shares, your bank, broker or other nominee cannot vote your shares on Proposal 2, and your non-vote will have no effect on the outcome of this proposal. If you vote to ABSTAIN on this Proposal 2, your shares will not be voted FOR or AGAINST the proposal and will also not be counted as votes cast or shares voting on Proposal 2. As a result, voting to ABSTAIN will have no effect on the voting on Proposal 2.

Proposal 3 — Non-binding Advisory Vote on the Compensation of Our Named Executive Officers

To approve Proposal 3, stockholders holding a majority of the votes cast on the matter must vote FOR the approval of the compensation of our named executive officers, as described in the “Compensation Discussion and Analysis,” executive compensation tables and accompanying narrative disclosures in this proxy statement. **Proposal 3 is a non-discretionary matter.** Therefore, if your shares are held by your bank, broker or other nominee in “street name” and you do not vote your shares, your bank, broker or other nominee cannot vote your shares on Proposal 3, and your non-vote will have no effect on the outcome of this proposal. If you vote to ABSTAIN on this Proposal 3, your shares will not be voted FOR or AGAINST the proposal and will also not be counted as votes cast or shares voting on Proposal 3. As a result, voting to ABSTAIN will have no effect on the voting on Proposal 3.

As an advisory vote, this proposal is not binding. The outcome of this advisory vote will not overrule any decision by us or our board of directors (or any committee thereof). However, our compensation committee and our 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 our named executive officers.

Proposal 4 — Ratification of Appointment of Independent Auditors

To approve Proposal 4, stockholders holding a majority of the votes cast on the matter must vote FOR the proposal. **Proposal 4 is a discretionary matter.** If your shares are held by your bank, broker or other nominee in “street name” and you do not vote your shares, your bank, broker or other nominee may vote your unvoted shares on Proposal 4. If you vote to ABSTAIN on Proposal 4, your shares will not be voted FOR or AGAINST the proposal and will also not be counted as votes cast or shares voting on the proposal. As a result, voting to ABSTAIN will have no effect on the voting on Proposal 4.

Although stockholder approval of our audit committee’s appointment of PricewaterhouseCoopers LLP as our independent auditors for the year ended December 31, 2015 is not required, we believe that it is advisable to give stockholders an opportunity to ratify this appointment. If this proposal is not approved at the annual meeting, our audit committee will reconsider its appointment of PricewaterhouseCoopers LLP as our independent auditors for the year ended December 31, 2015.

- Q. Are there other matters to be voted on at the annual meeting?**
- A.** We do not know of any matters that may come before the annual meeting other than the election of three Class II directors, the approval of our Amended 2009 Plan, the non-binding advisory vote on the compensation of our named executive officers and the ratification of the appointment of our independent auditors. If any other matters are properly presented at the annual meeting, the persons named in the accompanying proxy intend to vote, or otherwise act, in accordance with their judgment on the matter.
- Q. Where can I find the voting results?**
- A.** Preliminary voting results will be announced at the annual meeting. We expect to report the voting results in a Current Report on Form 8-K within four business days following the adjournment of our annual meeting. If final voting results are not available to us in time to file a Current Report on Form 8-K within four business days after the annual meeting, we intend to file a Current Report on Form 8-K to publish preliminary results and, within four business days after the final results are known to us, to file an additional Current Report on Form 8-K to publish the final results.
- Q. What are the costs of soliciting these proxies?**
- A.** We will bear the cost of soliciting proxies. In addition to these proxy materials, our directors, officers and employees may solicit proxies by telephone, e-mail, facsimile and in person, without additional compensation. We have also retained Alliance Advisors LLC to solicit proxies by mail, courier, telephone and facsimile and to request brokers, custodians and fiduciaries to forward proxy soliciting materials to the owners of stock held in their names. For these services, we paid a fee of approximately \$15,000, plus expenses. We may reimburse brokers or persons holding stock in their names, or in the names of their nominees, for their expenses in sending proxies and proxy materials to beneficial owners.
- Q. How do I vote my 401(k) shares?**
- A.** You may give voting instructions for the number of shares of Alnylam common stock equal to the interest in Alnylam common stock credited to your 401(k) plan account as of the record date. To vote these shares, complete and return to Computershare the proxy card sent to you with this proxy statement. The 401(k) plan trustee will vote your shares according to your instructions. Only Computershare and its affiliates or agents will have access to your individual voting instructions. You may revoke previously given voting instructions by filing with the trustee either a written revocation or a properly completed and signed proxy bearing a later date. To vote your 401(k) plan shares, you must provide your voting instructions to Computershare before 11:59 p.m., Eastern Time, on April 29, 2015, for your proxy to be valid and your vote to count. If you do not provide voting instructions to the 401(k) plan trustee, the 401(k) plan trustee will not vote your shares.

Householding of Annual Meeting Materials

Some banks, brokers and other nominee record holders may be participating in the practice of “householding” proxy statements and annual reports. This means that only one copy of our proxy statement and annual report to stockholders may have been sent to multiple stockholders in your household. We will promptly deliver a separate copy of either document to you upon written or oral request to Alnylam Pharmaceuticals, Inc., 300 Third Street, Cambridge, Massachusetts 02142, Attention: Investor Relations and Corporate Communications, telephone: (617) 551-8200. If you want to receive separate copies of the proxy statement or annual report to stockholders in the future, or if you are receiving multiple copies and would like to receive only one copy per household, you should contact your bank, broker or other nominee record holder, or you may contact us at the above address and phone number.

OWNERSHIP OF OUR COMMON STOCK

The following table sets forth information regarding beneficial ownership of our common stock as of January 30, 2015, except as otherwise set forth in the footnotes below, by:

- each person, or group of affiliated persons, known to us to be the beneficial owner of more than 5% of the outstanding shares of our common stock;
- each of our directors and director nominees;
- our principal executive officer, our principal financial officer and our three other most highly compensated executive officers who were serving as executive officers on December 31, 2014, whom, collectively, we refer to as our named executive officers or NEOs; and
- all of our directors and executive officers as a group.

The number of shares of common stock beneficially owned by each person or entity is determined in accordance with the applicable rules of the SEC and includes voting or investment power with respect to shares of our common stock. The information is not necessarily indicative of beneficial ownership for any other purpose. Unless otherwise indicated, to our knowledge, all persons named in the table have sole voting and investment power with respect to their shares of common stock, except to the extent authority is shared by spouses under community property laws. The inclusion herein of any shares as beneficially owned does not constitute an admission of beneficial ownership of those shares by the person listed in the table.

| <u>Name and Address of Beneficial Owner(1)</u> | <u>Number of Shares Owned</u> | + | <u>Number of Shares Acquirable Within 60 Days(2)</u> | = | <u>Total Beneficial Ownership</u> | <u>Percentage of Common Stock Beneficially Owned(3)</u> |
|---|-------------------------------|---|--|---|-----------------------------------|---|
| Holders of more than 5% of our common stock | | | | | | |
| FMR LLC(4) | 11,539,663 | | — | | 11,539,663 | 13.8% |
| Sanofi(5) | 10,051,603 | | — | | 10,051,603 | 12.0% |
| Wellington Management Group LLP(6) | 8,947,136 | | — | | 8,947,136 | 10.7% |
| Vanguard Specialized Funds-Vanguard Health Care Fund(7) | 5,030,100 | | — | | 5,030,100 | 6.0% |
| Directors and Named Executive Officers | | | | | | |
| Dennis A. Ausiello, M.D. | 16,665(8) | | 2,823 | | 19,488 | * |
| Michael W. Bonney** | — | | — | | — | * |
| John K. Clarke | 8,891 | | 90,000 | | 98,891 | * |
| Marsha H. Fanucci | 10,000 | | 75,000 | | 85,000 | * |
| John M. Maraganore, Ph.D. | 125,525(9) | | 1,060,132 | | 1,185,657 | 1.4% |
| Steven M. Paul, M.D. | 1,000 | | 78,388 | | 79,388 | * |
| Paul R. Schimmel, Ph.D. | 310,996(10) | | 32,823 | | 343,819 | * |
| Amy W. Schulman** | — | | — | | — | * |
| Phillip A. Sharp, Ph.D. | 266,899(11) | | 268,670 | | 535,569 | * |
| Kevin P. Starr | — | | 128,670 | | 128,670 | * |
| Barry E. Greene | 25,962(9) | | 659,624 | | 685,586 | * |
| Akshay K. Vaishnav, M.D., Ph.D. | 82(9) | | 225,965 | | 226,047 | * |
| Laurie B. Keating** | — | | — | | — | * |
| Michael P. Mason | 1,986(9) | | 6,978 | | 8,964 | * |
| All directors and executive officers as a group (14 persons) | 768,006 | | 2,629,073 | | 3,397,079 | 3.9% |

* Less than 1% of our outstanding common stock.

** Joined Alnylam as a director or officer in the second half of 2014.

- (1) Unless otherwise indicated, the address of each stockholder is c/o Alnylam Pharmaceuticals, Inc., 300 Third Street, Cambridge, MA 02142.
- (2) Reflects shares issuable upon the exercise of stock options that are exercisable or will become exercisable within 60 days after January 30, 2015.
- (3) Percentage of beneficial ownership is based on 83,760,143 shares of our common stock outstanding as of January 30, 2015, which includes the 5,447,368 shares we sold in an underwritten public offering in January 2015. However, other than with respect to our officers and directors, unless reported pursuant to Section 13 or Section 16, we have not included with respect to other beneficial owners the number of shares purchased by such owner in connection with the public offering. Shares of common stock subject to options currently exercisable, or exercisable within 60 days of January 30, 2015, are deemed outstanding for computing the percentage of the common stock beneficially owned by the person holding such options but are not deemed outstanding for computing the percentage ownership of any other person.
- (4) According to Amendment No. 10 to a Schedule 13G filed by FMR LLC (previously known as FMR Corp.) with the SEC on February 13, 2015, as of December 31, 2014, Fidelity Management & Research Company, a wholly-owned subsidiary of FMR LLC and an investment adviser registered under Section 203 of the Investment Advisers Act of 1940, is the beneficial owner of 11,539,663 shares of our common stock, as a result of acting as an investment adviser to various investment companies registered under Section 8 of the Investment Company Act of 1940. Edward C. Johnson 3d, Chairman of FMR LLC, Abigail P. Johnson, Director, Vice Chairman, Chief Executive Officer and President of FMR LLC and FMR LLC, through its control of Fidelity Management & Research Company and the funds, each has sole power to dispose of the 11,539,663 shares of our common stock owned by such funds. The ownership of one investment company, Fidelity Growth Company Fund, amounted to 5,039,491 shares of our common stock. Neither FMR LLC nor Edward C. Johnson 3d nor Abigail P. Johnson has the sole power to vote or direct the voting of the shares owned directly by such funds, which power resides with the funds' Boards of Trustees. Fidelity Management & Research Company carries out the voting of the shares under written guidelines established by the funds' Boards of Trustees. Various persons have the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, the shares of our common stock held by these funds. The address of FMR LLC is 245 Summer Street, Boston, MA 02210.
- (5) According to Amendment No. 1 to a Schedule 13G filed by Sanofi with the SEC on February 2, 2015, as of January 29, 2015, Sanofi was the record and beneficial owner of 10,051,603 shares of our common stock. In January 2014, we entered into a global, strategic collaboration with Genzyme Corporation, or Genzyme, a wholly-owned subsidiary of Sanofi, to discover, develop and commercialize RNA interference, or RNAi, therapeutics as genetic medicines to treat orphan diseases. In January 2015, in connection with an underwritten public offering of our common stock, Genzyme exercised its right under our investor agreement with Genzyme to purchase directly from us, in concurrent private placements, 744,566 shares of common stock. Under the investor agreement, Genzyme also has the right each January to purchase a number of shares of our common stock based on the number of shares we issued during the previous year for compensatory purposes. Genzyme exercised this right to purchase directly from us 196,251 shares of our common stock in January 2015. Each of these purchases allowed Genzyme to maintain its ownership level of our common stock of approximately 12%. The information contained in the table above includes the aggregate of 940,817 additional shares that Genzyme purchased in January 2015. The address of Sanofi is 54 Rue La Boétie, 75008 Paris (France).
- (6) According to Amendment No. 2 to a Schedule 13G filed by Wellington Management Group LLP (formerly Wellington Management Company, LLP), or Wellington Management, with the SEC on February 12, 2015, as of December 31, 2014, Wellington Management, in its capacity as an investment adviser, may be deemed to beneficially own 8,947,136 shares of our common stock which are held of record by clients of Wellington Management. Those clients have the right to receive, or the power to direct the receipt of, dividends from, or the proceeds from the sale of, such securities. Vanguard Health Care Fund is the only client known to have such right or power with respect to more than five percent of the reported shares. Wellington Management has shared power to vote or to direct the vote with respect to 3,108,731 shares of our common stock and shared power to dispose or to direct the disposition of 8,947,136 shares of our common stock. The address of Wellington Management is 280 Congress Street, Boston, MA 02210.

- (7) According to Amendment No. 1 to a Schedule 13G filed by Vanguard Specialized Funds – Vanguard Health Care Fund, or Vanguard, with the SEC on February 6, 2015, as of December 31, 2014, Vanguard has the sole power to vote the shares owned. The address of Vanguard is 100 Vanguard Blvd., Malvern, PA 19355.
- (8) Includes 3,500 shares of our common stock held in a trust, of which Dr. Ausiello’s spouse is the trustee.
- (9) Includes shares of our common stock contributed by Alnylam to our 401(k) plan for the benefit of our NEOs as of January 30, 2015: Dr. Maraganore, 2,700 shares; Mr. Greene, 2,570 shares; Mr. Mason, 1,986 shares; and Dr. Vaishnaw, 82 shares.
- (10) Includes shares of our common stock held by the Paul Schimmel Prototype PSP, of which Dr. Schimmel is the trustee and over which he has sole voting and investment power, and the Schimmel Revocable Trust U/A dated 9/6/2000, of which Dr. Schimmel and his spouse are trustees and share voting and investment power.
- (11) Includes shares of our common stock held by the Phillip A. Sharp 2009 Grantor Retained Annuity Trust No. 3 and the Phillip A. Sharp 2010 Grantor Retained Annuity Trust No. 6, both of which Dr. Sharp is the trustee and over which he has sole voting and investment power.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, requires our directors, executive officers and the holders of more than 10% of our common stock to file with the SEC initial reports of ownership of our common stock and other equity securities on a Form 3 and reports of changes in such ownership on a Form 4 or Form 5. Officers, directors and 10% stockholders are required by SEC regulations to furnish us with copies of all Section 16(a) forms they file. Based solely on a review of our records and written representations by the persons required to file these reports, we believe that all such persons complied on a timely basis with the filing requirements of Section 16(a) during the fiscal year ended December 31, 2014.

PROPOSAL 1 — ELECTION OF CLASS II DIRECTORS

We have three classes of directors, Class I, Class II and Class III, and during 2014 the board increased the number of directors from nine to ten. At each annual meeting, directors are elected for a term of three years to succeed those whose terms are expiring. The directors are divided as equally as possible among the three classes, and the terms of the three classes are staggered so that only one class is elected by stockholders annually.

At the annual meeting, we are proposing the election of three Class II directors to hold office until the annual meeting of stockholders to be held in 2018, or until their respective successors have been duly elected and qualified. Upon the recommendation of the nominating and corporate governance committee of our board, the board has nominated Dennis A. Ausiello, M.D., John K. Clarke and Marsha H. Fanucci for election to the board of directors as Class II directors. Dr. Ausiello, Mr. Clarke and Ms. Fanucci are currently serving as Class II directors. Dr. Ausiello has served as a director since 2012, Mr. Clarke has served as a director since 2002 and Ms. Fanucci has served as a director since 2010. The Class II directors elected at this year’s annual meeting will serve as members of our board until the 2018 annual meeting of stockholders, or until their respective successors are elected and qualified.

The persons named in the enclosed proxy will vote to elect Dr. Ausiello, Mr. Clarke and Ms. Fanucci as Class II directors unless the proxy is marked otherwise. Dr. Ausiello, Mr. Clarke and Ms. Fanucci have indicated their willingness to serve on our board, but if any nominee should be unwilling or unable to serve, the person acting under the proxy may vote the proxy for a substitute nominee designated by our board, unless the board reduces the number of directors accordingly.

Board Recommendation

Our board of directors unanimously recommends a vote “FOR” the election of each of Dr. Ausiello, Mr. Clarke and Ms. Fanucci as a Class II director.

Set forth below for each director, including the Class II director nominees, Dr. Ausiello, Mr. Clarke and Ms. Fanucci, is information as of February 15, 2015 with respect to his or her (a) name and age, (b) positions and offices at Alnylam, if any, (c) principal occupation and business experience during at least the past five years, (d) directorships, if any, of other publicly-held companies, held currently or during the past five years, and (e) the year such person became a member of our board of directors. The duration of an individual’s service on our board or as an officer described below includes service on the board of directors or as an officer of our predecessor company, which was also known as Alnylam Pharmaceuticals, Inc.

We have also included information below regarding each director’s specific experience, qualifications, attributes and skills that led the nominating and corporate governance committee and our board of directors to the conclusion that he or she should serve as a director in light of our business and structure. Our board has determined that each director serving on our board of directors, with the exception of Dr. Maraganore, is independent within the meaning of the director independence standards of The NASDAQ Global Select Market and the Exchange Act. There are no family relationships among any of our directors or executive officers.

| <u>Name</u> | <u>Age</u> | <u>Director Since</u> | <u>Principal Occupation, Other Business Experience and Other Directorships During the Past Five Years, and Other Specific Experience, Qualifications, Attributes and Skills</u> |
|---|------------|-----------------------|--|
| Class II directors, nominees to be elected at the 2015 annual meeting (terms expiring in 2018) | | | |
| Dennis A. Ausiello, M.D. <i>Nominating and Corporate Governance Committee Science and Technology Committee</i> | 69 | 2012 | <p>Dr. Ausiello has served as a member of our board of directors since April 2012. Dr. Ausiello serves as the Director of the Center for Assessment Technology and Continuous Health (CATCH), Jackson Distinguished Professor of Clinical Medicine at Harvard Medical School and Physician-in-Chief Emeritus at Massachusetts General Hospital, and served as the Chief of Medicine at Massachusetts General Hospital from 1996 to April 2013. Dr. Ausiello was the President of the Association of American Physicians in 2006. He is a member of the Institute of Medicine of the National Academy of Sciences and a fellow of the American Academy of Arts and Sciences. He also serves as a director of Pfizer Inc.</p> <p>Dr. Ausiello’s experience as a practicing physician, a scientist and a nationally recognized leader in academic medicine enable him to bring valuable insights to our board, particularly as we advance our clinical development pipeline and initiate additional clinical trials. In addition, Dr. Ausiello oversees a large research portfolio and an extensive research and education budget at Massachusetts General Hospital, giving him a valuable perspective on drug discovery and development. Through his previous work as the Chief of Medicine at Massachusetts General Hospital, Dr. Ausiello also brings leadership, oversight and finance experience to our board.</p> |

| <u>Name</u> | <u>Age</u> | <u>Director Since</u> | <u>Principal Occupation, Other Business Experience and Other Directorships During the Past Five Years, and Other Specific Experience, Qualifications, Attributes and Skills</u> |
|--|------------|-----------------------|--|
| John K. Clarke <i>Chairman of the Board</i> <i>Audit Committee</i> <i>Nominating and Corporate</i> <i>Governance Committee (Chair)</i> | 61 | 2002 | <p>Mr. Clarke is a founder of Alnylam and has served as the chairman of our board of directors since June 2002. Since founding Cardinal Partners, a venture capital firm focused on healthcare, in 1997, Mr. Clarke has served as its Managing General Partner. Mr. Clarke also serves as a director of Momenta Pharmaceuticals, Inc. and formerly served as a director of Verastem, Inc. from November 2010 to May 2014.</p> <p>Mr. Clarke has over 30 years of experience as a venture capitalist in the life sciences and healthcare industries, bringing a deep understanding to our board of the challenges of building a successful biotechnology company. He co-founded and served as interim chief executive officer of numerous successful private and publicly traded biotechnology companies. Mr. Clarke has a keen understanding of the interplay between management and the board and is well-versed in the current best practices in corporate governance, making him well-suited to serve as the chairman of our board and chair of our nominating and corporate governance committee.</p> |
| Marsha H. Fanucci <i>Audit Committee</i> <i>Nominating and Corporate</i> <i>Governance Committee</i> | 61 | 2010 | <p>Ms. Fanucci has served as a member of our board of directors since December 2010. Ms. Fanucci served as Senior Vice President and Chief Financial Officer of Millennium Pharmaceuticals, Inc. (now a wholly-owned subsidiary of Takeda Pharmaceutical Company Limited), a biopharmaceutical company, from July 2004 to January 2009. While at Millennium, she also served as Vice President, Finance and Corporate Strategy from July 2003 to June 2004, and prior to that as Vice President of Corporate Development from 2000. Prior to joining Millennium, Ms. Fanucci served as Vice President of Corporate Development and Strategy at Genzyme Corporation, a biotechnology company, from 1998 to 2000. Ms. Fanucci also serves as a director of Ironwood Pharmaceuticals, Inc. and Momenta Pharmaceuticals, Inc.</p> <p>Ms. Fanucci has demonstrated an expertise with respect to public company and financial accounting matters, including over 24 years of leadership and consulting experience in biotechnology and healthcare companies. Her leadership in the areas of corporate strategy, financial planning and reporting, and operations, are an asset to our board, and in particular, our audit committee, as we continue to grow our company, advance our clinical development pipeline and partner additional programs and technologies.</p> |

| <u>Name</u> | <u>Age</u> | <u>Director Since</u> | <u>Principal Occupation, Other Business Experience and Other Directorships During the Past Five Years, and Other Specific Experience, Qualifications, Attributes and Skills</u> |
|---|------------|-----------------------|--|
| Class I directors (terms expiring in 2017) | | | |
| Michael W. Bonney | 56 | 2014 | <p>Mr. Bonney has served as a member of our board of directors since December 2014. Mr. Bonney served as the Chief Executive Officer of Cubist Pharmaceuticals Inc., a biopharmaceutical company, from June 2003 until his retirement in December 2014. From 2003 to 2012, Mr. Bonney served as President and Chief Executive Officer of Cubist and from January 2002 to June 2003, he served as Cubist’s President and Chief Operating Officer. Mr. Bonney formerly served as a director of NPS Pharmaceuticals, Inc. from 2005 to February 2015 and as a director of Cubist from 2003 to January 2015. He is a trustee of the H&Q life sciences and healthcare funds, both publicly traded investment funds. Mr. Bonney is also a board member of the Pharmaceutical Research and Manufacturers of America, a non-profit pharmaceutical trade organization.</p> <p>Mr. Bonney possesses over 30 years of operational, commercial and senior management experience in the biopharmaceutical industry, including his long tenure as the Chief Executive Officer and a director of Cubist. His breadth of experience and deep commercial background enable him to make significant contributions to our board as we begin the transition towards late-stage clinical development and potential commercial operations.</p> |
| John M. Maraganore, Ph.D. | 52 | 2002 | <p>Dr. Maraganore has served as our Chief Executive Officer and as a member of our board of directors since December 2002. Dr. Maraganore also served as our President from December 2002 to December 2007. From April 2000 to December 2002, Dr. Maraganore served as Senior Vice President, Strategic Product Development for Millennium Pharmaceuticals, Inc. (now a wholly-owned subsidiary of Takeda Pharmaceutical Company Limited), a biopharmaceutical company. He also serves as a director of Agios Pharmaceuticals, Inc., bluebird bio, Inc. and the Biotechnology Industry Organization, a non-profit biotechnology trade organization, and formerly served as a director of Regulus Therapeutics Inc. from 2007 to May 2014.</p> <p>Dr. Maraganore has over 25 years of experience in the biotechnology industry, bringing to our board critical scientific, research and development, and general management expertise. In prior roles, Dr. Maraganore has led the research, development and FDA approval and commercialization of important drug therapies, including Angiomax®, an anticoagulant for patients undergoing coronary angioplasty procedures, of which Dr. Maraganore was an inventor. As a founder and leader of new businesses, he has developed high-performing</p> |

| <u>Name</u> | <u>Age</u> | <u>Director Since</u> | <u>Principal Occupation, Other Business Experience and Other Directorships During the Past Five Years, and Other Specific Experience, Qualifications, Attributes and Skills</u> |
|--|------------|-----------------------|--|
| Paul R. Schimmel, Ph.D. <i>Compensation Committee</i> <i>Science and Technology</i> <i>Committee</i> | 74 | 2002 | <p>organizations and created stockholder value while focusing on leading-edge scientific research. A true visionary, strategist and innovator, Dr. Maraganore's broad experience and personal passion bring an invaluable perspective to our board.</p> <p>Dr. Schimmel is a scientific founder of Alnylam and has served as a member of our board of directors since June 2002. Dr. Schimmel has been the Ernest and Jean Hahn Professor of Molecular Biology and Chemistry and a member of the Skaggs Institute for Chemical Biology at the Scripps Research Institute since 1997. Dr. Schimmel is a member of the National Academy of Sciences, the Institute of Medicine and the American Academy of Arts and Sciences.</p> <p>Dr. Schimmel is a noted academic scholar, and his knowledge and experience offer a critical scientific perspective to our board. Dr. Schimmel has authored or co-authored more than 450 scientific papers, and has been active in many scientific and academic organizations and committees. Having a longstanding interest in the applications of basic biomedical research to human health, Dr. Schimmel holds several patents and is a co-founder or founding director of a number of biotechnology companies, of which six, including Alnylam, became publicly traded. As one of our scientific founders, Dr. Schimmel's insight and scientific expertise are invaluable assets to our board when evaluating our strategy and unique challenges as one of the first companies focused on the discovery and development of therapeutics based on RNAi.</p> |
| Phillip A. Sharp, Ph.D. <i>Science and Technology</i> <i>Committee (Chair)</i> <i>Nominating and Corporate</i> <i>Governance Committee</i> | 70 | 2002 | <p>Dr. Sharp is a scientific founder of Alnylam and has served as a member of our board of directors since June 2002. Dr. Sharp is an Institute Professor at the David H. Koch Institute for Integrative Cancer Research, Massachusetts Institute of Technology (MIT), and was the Founding Director of the McGovern Institute for Brain Research at MIT. Dr. Sharp has been a professor at MIT since 1974. He is a member of the National Academy of Sciences, the Institute of Medicine and American Academy of Arts and Sciences. Dr. Sharp also formerly served as a director of Biogen, Inc. (now Biogen Idec Inc.), which he co-founded in 1978.</p> <p>Dr. Sharp, a leading researcher in molecular biology and biochemistry, brings to our board a fundamental understanding of the core scientific principles of our business. Dr. Sharp received the Nobel Prize for</p> |

| <u>Name</u> | <u>Age</u> | <u>Director Since</u> | <u>Principal Occupation, Other Business Experience and Other Directorships During the Past Five Years, and Other Specific Experience, Qualifications, Attributes and Skills</u> |
|--|------------|-----------------------|--|
| Class III directors (terms expiring in 2016) | | | <p>Physiology or Medicine in 1993, received numerous awards and honorary degrees for his scientific work, and served on many advisory boards for the government, academic institutions, scientific societies and companies. Dr. Sharp has strategic expertise based upon his role as a co-founder and former director of Biogen Idec Inc. As one of our scientific founders, Dr. Sharp's insight and scientific expertise are invaluable assets to our board when evaluating our strategy and unique challenges as one of the first companies focused on the discovery and development of RNAi therapeutics, and he is uniquely qualified to serve as the chair of our science and technology committee.</p> |
| Steven M. Paul, M.D. <i>Compensation Committee (Chair)</i> <i>Science and Technology</i> <i>Committee</i> | 64 | 2010 | <p>Dr. Paul has served as a member of our board of directors since September 2010. Dr. Paul has served as the President and Chief Executive Officer of Voyager Therapeutics, a biotechnology company, since September 2014. Dr. Paul was the founding director of the Appel Alzheimer's Disease Research Institute, and is a Professor of Neurology (Neuroscience), Psychiatry and Pharmacology at Weill Cornell Medical College of Cornell University and a Venture Partner at Third Rock Ventures, a venture capital firm. Dr. Paul served for 17 years at Eli Lilly and Company, a pharmaceutical company, most recently as the Executive Vice President for Science and Technology and President of the Lilly Research Laboratories, a division of Eli Lilly and Company, from July 2003 to his retirement in February 2010. He is a member of the Institute of Medicine of the National Academy of Sciences and a Fellow of the American Association for the Advancement of Science. Prior to joining Lilly, Dr. Paul served in several senior roles at the National Institute of Mental Health, including serving as the Scientific Director of the Intramural Research Program. Dr. Paul also serves as a director of the Sigma-Aldrich Corporation and SAGE Therapeutics, Inc.</p> <p>Dr. Paul brings to our board more than 17 years of management experience in the pharmaceutical industry and 35 years of scientific research experience. He is widely recognized as a leader across many dimensions of medical research and drug development, and this expertise is important to our board as we continue to advance our clinical development pipeline and initiate additional clinical trials.</p> |

| <u>Name</u> | <u>Age</u> | <u>Director Since</u> | <u>Principal Occupation, Other Business Experience and Other Directorships During the Past Five Years, and Other Specific Experience, Qualifications, Attributes and Skills</u> |
|---|------------|-----------------------|--|
| Amy W. Schulman <i>Nominating and Corporate Governance Committee</i> | 54 | 2014 | <p>Ms. Schulman has served as a member of our board of directors since July 2014. Ms. Schulman joined Arsia Therapeutics, a biotechnology company, as Chief Executive Officer in August 2014, at the same time she began her role as a Venture Partner at Polaris Partners, a venture capital firm. Prior to this, Ms. Schulman was the Executive Vice President and General Counsel of Pfizer Inc., a global pharmaceutical company, from May 2008 to July 2014, where she also served as the Business Unit Lead for Pfizer’s Consumer Healthcare business. Before joining Pfizer, she was a partner at DLA Piper. Since July 2014, Ms. Schulman has also been a senior lecturer at Harvard Business School. Ms. Schulman also serves as a director of BIND Therapeutics, Inc.</p> <p>Ms. Schulman brings to our board a diverse background that includes legal, operational and commercial expertise. As our business grows and becomes more complex, Ms. Schulman’s unique qualifications will enable her to counsel us in a number of critical areas, including commercial strategy and capability building, as well as legal, regulatory and transactional considerations. In addition, her experience at Pfizer as Executive Sponsor of Pfizer’s Global Women’s Council, where she helped shape efforts to increase diversity and expand opportunities for both women and men across the company, will be an important resource as we grow our workforce to support the advancement of our development pipeline.</p> |
| Kevin P. Starr <i>Audit Committee (Chair) Compensation Committee</i> | 52 | 2003 | <p>Mr. Starr has served as a member of our board of directors since September 2003. Since April 2007, Mr. Starr has been a Partner of Third Rock Ventures, a venture capital firm. From January 2003 to March 2007, Mr. Starr was an entrepreneur. From December 2001 to December 2002, Mr. Starr served as Chief Operating Officer of Millennium Pharmaceuticals, Inc. (now a wholly-owned subsidiary of Takeda Pharmaceutical Company Limited), a biopharmaceutical company. He also served as Millennium’s Chief Financial Officer from December 1998 to December 2002. Mr. Starr also serves as a director of Agios Pharmaceuticals, Inc., SAGE Therapeutics, Inc. and Zafgen, Inc.</p> <p>Mr. Starr is a proven operational leader who brings to our board over 25 years of experience building and leading biotechnology companies. Mr. Starr’s background includes executive management roles with responsibility over key financial and business planning functions, including extensive experience in the oversight of financial audits, the design and implementation of</p> |

| <u>Name</u> | <u>Age</u> | <u>Director Since</u> | <u>Principal Occupation, Other Business Experience and Other Directorships During the Past Five Years, and Other Specific Experience, Qualifications, Attributes and Skills</u> |
|-------------|------------|-----------------------|---|
| | | | financial controls, and corporate governance best practices. In addition, as an entrepreneur and venture capitalist, Mr. Starr has focused on the formation, development and business strategy of multiple start-up companies. Mr. Starr's depth and breadth of financial expertise and his experience handling complex financial and business issues also position him well to serve as chair and financial expert of our audit committee. |

CORPORATE GOVERNANCE

General

We believe that good corporate governance is important to ensure that Alnylam is managed for the long-term benefit of our stockholders. This section describes key corporate governance practices that we have adopted.

We have adopted a code of business conduct and ethics, which applies to all of our officers, directors and employees, as well as charters for our audit committee, our compensation committee, our nominating and corporate governance committee, and our science and technology committee. We have also adopted corporate governance guidelines. We have posted copies of these documents on the Corporate Governance page of the Investors section of our website, www.alnylam.com. We intend to disclose on our website any amendments to, or waivers from, our code of business conduct and ethics required to be disclosed by law or NASDAQ Global Select Market listing standards.

Corporate Governance Guidelines

Our board of directors has adopted corporate governance guidelines to assist in the exercise of its duties and responsibilities and to serve the best interests of Alnylam and our stockholders. These guidelines, which provide a framework for the conduct of our board of directors' business, provide that:

- our board's principal responsibility is to oversee the management of Alnylam;
- a majority of the members of our board shall be independent directors;
- the independent directors meet regularly in executive session;
- directors have full and free access to management and, as necessary and appropriate, independent advisors; and
- periodically, our board and its committees will conduct a self-evaluation to determine whether they are functioning effectively.

We have posted a copy of our corporate governance guidelines on the Corporate Governance page of the Investors section of our website, www.alnylam.com.

Board Determination of Independence

Under the NASDAQ Marketplace Rules, a director will qualify as an "independent director" if, in the opinion of our board, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. Our board has determined that none of Mses. Fanucci and Schulman, Drs. Ausiello, Paul, Schimmel and Sharp, and Messrs. Bonney, Clarke and Starr have a relationship which would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each of these directors is an "independent director" as defined under NASDAQ Rule 5605(a)(2). Furthermore, the board has determined that each member of our audit committee, compensation committee and nominating and corporate governance committee is independent within the meaning of the applicable director independence standards of The NASDAQ Global Select Market and the

Exchange Act. In making such determination, our board considered relationships, if any, that each non-employee director or family member of such director has with Alnylam, their beneficial ownership of our outstanding common stock and other facts and circumstances our board deemed relevant in determining their independence.

Role of the Board

Our business is managed under the direction of the board of directors. Management has primary responsibility for the day-to-day operations and affairs of our company and the role of our board is to provide independent oversight of management on behalf of our stockholders. In its oversight role, our board, as a whole and through its committees, is responsible for establishing broad corporate policies and reviewing our overall performance. Our board selects, evaluates and provides for the succession of executive officers and, subject to stockholder election, directors. It reviews and approves corporate objectives and strategies, and evaluates significant policies and proposed major commitments of corporate resources. Our board also participates in decisions that have a potential major economic impact on our company. Management keeps our directors informed of company activity through regular communication, including written reports and presentations at board of directors and committee meetings.

Board Leadership Structure

Our board has determined that the roles of chief executive officer and chairman of the board should be separated at the current time. Mr. Clarke, an independent director, has served as our chairman since the founding of Alnylam in 2002, and Dr. Maraganore has served as our chief executive officer and a director since 2002. Separating these positions allows our chief executive officer to focus on our day-to-day business operations, while allowing the chairman to lead the board in its fundamental role of providing advice to and independent oversight of management. The board recognizes the time, effort and energy that the chief executive officer is required to devote to his position in the current business environment, as well as the commitment required to serve as our chairman, particularly as the board's oversight responsibilities continue to grow. While our bylaws and corporate governance guidelines do not require that our chairman and chief executive officer positions be separate, our board believes that our current leadership structure is appropriate because it provides an effective balance between strategy development and independent leadership and management oversight.

The Board's Role in Risk Oversight

We face a number of risks in our business, including risks related to: pre-clinical and clinical research and development; manufacturing; regulatory reviews, approvals and oversight; preparations for potential commercial operations; intellectual property filings, prosecution, maintenance and challenges; the establishment and maintenance of strategic alliances; competition; litigation; and the ability to access additional funding for our business; as well as other risks. Our management is responsible for the day-to-day management of the risks that we face, while our board of directors, as a whole and through its committees, has responsibility for the oversight of risk management.

Our board administers its risk oversight function directly and through its four committees. Our chairman meets regularly with our chief executive officer and other executive officers to discuss strategy and risks facing the company. Members of senior management attend the quarterly board meetings and are available to address any questions or concerns raised by the board on risk management-related and any other matters. Each quarter, the board of directors receives presentations from members of senior management on strategic matters involving our business. In addition, as part of its charter, the audit committee regularly discusses with management our risk exposures in the areas of financial reporting, internal controls and compliance with legal and financial regulatory requirements, their potential impact on our company and the steps we take to manage them. The compensation committee assists the board in fulfilling its oversight responsibilities with respect to the management of risks arising from our compensation policies and programs. The nominating and corporate governance committee assists the board in fulfilling its oversight responsibilities with respect to the management of risks associated with board organization, membership and structure, succession planning for our directors and executive officers, and corporate governance. The science and technology committee reviews and advises the board regarding risks arising from our scientific research, discovery and development strategy and programs, the intellectual property landscape and our regulatory compliance and quality programs.

Board of Directors Meetings and Attendance
















Our board met six times during 2014, either in person or by teleconference. During 2014, each of our directors attended at least 75% of the aggregate number of board meetings and meetings of the committees on which he or she then served.

Our directors are expected to attend the annual meeting of stockholders. All but one of our then-current directors attended the 2014 annual meeting of stockholders.

Board Committees

Our board of directors has established four standing committees — audit, compensation, nominating and corporate governance, and science and technology — each of which operates under a written charter that has been approved by our board. We have posted copies of each committee’s charter on the Corporate Governance page of the Investors section of our website, www.alnylam.com. The members of each committee are appointed by our board, upon the recommendation of our nominating and corporate governance committee.

Our board has determined that all of the members of each of the audit, compensation, and nominating and corporate governance committees are independent as defined under the NASDAQ Marketplace rules, and, in the case of all members of our audit committee, the independence requirements of Rule 10A-3 under the Exchange Act. Current committee memberships are shown in the table below:

| | <u>Audit Committee</u> | <u>Compensation Committee</u> | <u>Nominating and Corporate Governance Committee</u> | <u>Science and Technology Committee</u> |
|---------------------------|---|---|---|---|
| Dennis A. Ausiello, M.D. | | |  |  |
| Michael W. Bonney | | | | |
| John K. Clarke ★ |  | |  | |
| Marsha H. Fanucci |  | |  | |
| John M. Maraganore, Ph.D. | | | | |
| Steven M. Paul, M.D. | |  | |  |
| Paul R. Schimmel, Ph.D. | |  | |  |
| Amy W. Schulman | | |  | |
| Phillip A. Sharp, Ph.D. | | |  |  |
| Kevin P. Starr |  |  | | |

★ Chairman of Board/Lead Outside Director  Chairperson  Member

Audit Committee

As described more fully in its charter, the audit committee oversees our accounting and financial reporting processes, internal controls and audit functions. In fulfilling its role, our audit committee is responsible for, among other things:

- appointing, evaluating, retaining, approving the compensation of and, when necessary, terminating the engagement of our independent auditors;
- taking appropriate action, or recommending that our board of directors take appropriate action, to oversee the independence of our independent auditors;
- reviewing and discussing with management and the independent auditors 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;
- reviewing and discussing our financial risk management policies;
- establishing policies regarding hiring employees from our independent auditors and procedures for the receipt and retention of accounting-related complaints and concerns;
- meeting independently with our independent auditors and management; and
- preparing the annual audit committee report required by SEC rules, which is included below under the heading “Report of the Audit Committee.”

In addition, our audit committee must approve or ratify any related person transaction entered into by us. Our policies and procedures for the review and approval of related person transactions are summarized under the heading “Policies and Procedures for Related Person Transactions,” which appears below.

The members of our audit committee are Messrs. Starr (Chair) and Clarke and Ms. Fanucci. We believe that each member of our audit committee satisfies the requirements for membership, including independence, under the NASDAQ Marketplace Rules and Rule 10A-3(b)(1) under the Exchange Act. Our board has determined that Mr. Starr is an “audit committee financial expert” as defined in Item 407(d)(5) of Regulation S-K. No member of our audit committee is the beneficial owner of more than 10% of our common stock.

Our audit committee met five times during 2014, either in person or by teleconference.

Compensation Committee

Our compensation committee’s responsibilities include, among other things:

- annually reviewing and approving corporate goals and objectives relevant to the compensation of our executive officers;
- reviewing and approving, or making recommendations to our board with respect to, the compensation of our chief executive officer and other executive officers;
- overseeing an evaluation of our senior executives;
- overseeing and administering our stock-based compensation plans and 401(k) plan, and performing the duties imposed on the compensation committee by the terms of those plans;
- reviewing and making recommendations to our board with respect to director compensation;
- reviewing, and amending as necessary, our compensation philosophy and objectives and reviewing annually and updating our peer group for compensation purposes;
- reviewing and discussing annually with management our “Compensation Discussion and Analysis,” which is included beginning on page 26 of this proxy statement; and
- preparing the annual compensation committee report required by SEC rules, which is included immediately following the “Compensation Discussion and Analysis” section appearing below.

The processes and procedures followed by our compensation committee in considering and determining executive compensation is described below under the heading “Compensation Discussion and Analysis.”

The members of our compensation committee are Drs. Paul (Chair) and Schimmel and Mr. Starr. We believe that each member of our compensation committee is an independent director within the meaning of the director independence standards of the NASDAQ Marketplace Rules, a non-employee director as defined in Rule 16b-3 of the Exchange Act, and an outside director pursuant to Section 162(m) of the Internal Revenue Code.

Our compensation committee met six times during 2014, either in person or by teleconference.

Compensation Committee Interlocks and Insider Participation

During fiscal year 2014, none of the members of our compensation committee was a current or former officer or employee of Alnylam and none had any related person transaction involving Alnylam.

During fiscal year 2014, no executive officer of our company served as: (i) a member of the compensation committee (or other committee of the board of directors performing equivalent functions or, in the absence of any such committee, the entire board of directors) of another entity, one of whose executive officers served on our compensation committee; (ii) a director of another entity, one of whose executive officers served on our compensation committee; or (iii) a member of the compensation committee (or other committee of the board of directors performing equivalent functions or, in the absence of any such committee, the entire board of directors) of another entity, one of whose executive officers served as a director of our company.

Risk Considerations in Executive Compensation

Our compensation committee has discussed the concept of risk as it relates to our executive compensation program and our compensation committee does not believe our executive compensation program encourages excessive or inappropriate risk taking. As described more fully below in “Compensation Discussion and Analysis,” we structure our pay to consist of both fixed and variable compensation to motivate our executives to produce superior short- and long-term results that are in the best interests of our company and stockholders in order to attain our ultimate objective of increasing stockholder value. We believe that any risks that may arise from our compensation policies and practices for our employees are not reasonably likely to have a material adverse effect on our company.

Nominating and Corporate Governance Committee

Our nominating and corporate governance committee is responsible for, among other things:

- identifying individuals qualified to become members of our board;
- recommending to our board the persons to be nominated for election as directors and the persons to be appointed to each of our board committees;
- reviewing and making recommendations to our board with respect to management succession planning;
- developing and recommending to our board a set of corporate governance principles; and
- overseeing the evaluation of our board.

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.”

The current members of our nominating and corporate governance committee are Mr. Clarke (Chair), Drs. Ausiello and Sharp and Mses. Fanucci and Schulman. We believe that each member of our nominating and corporate governance committee satisfies the requirements for membership, including independence, as established under the NASDAQ Marketplace Rules. Victor Dzau was a member of our nominating and corporate governance committee through June 2014. He resigned from the board effective June 30, 2014, as a result of his appointment as President of the Institute of Medicine effective July 1, 2014. Ms. Fanucci joined the nominating and corporate governance committee in June 2014, and Ms. Schulman and Dr. Sharp joined the nominating and corporate governance committee in September 2014.

Our nominating and corporate governance committee met four times during 2014, either in person or by teleconference.

Science and Technology Committee

Our science and technology committee is responsible for, among other things:

- overseeing our scientific advisory board;
- reviewing our overall scientific and research and development strategy;
- reviewing our research and development programs;
- reviewing our regulatory compliance and quality programs;
- reviewing cognate external scientific research, discoveries and commercial developments, as appropriate; and
- reviewing our overall intellectual property strategies.

The members of our science and technology committee are Drs. Sharp (Chair), Ausiello, Paul and Schimmel. Victor Dzau was a member of our science and technology committee through June 2014. He resigned from the board effective June 30, 2014, as a result of his appointment as President of the Institute of Medicine effective July 1, 2014.

Our science and technology committee met four times during 2014, either in person or by teleconference.

Director Nomination Process

Our nominating and corporate governance committee is responsible for identifying individuals qualified to become directors, consistent with criteria approved by our board, and recommending the persons to be nominated for election as directors.

The process followed by our nominating and corporate governance committee to identify and evaluate director candidates includes requests to board members 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 the committee and our board.

Criteria and Diversity

Our corporate governance guidelines specify that diversity on the board should be considered by the nominating and corporate governance committee in the director identification and nomination process. In considering whether to recommend any particular candidate for inclusion in our board's slate of recommended director nominees, our nominating and corporate governance committee will apply certain criteria, including the candidate's integrity, business acumen, knowledge of our business and industry, experience, diligence, conflicts of interest and ability to act in the interests of all stockholders. Our nominating and corporate governance committee also considers issues of diversity, such as diversity of gender, race and national origin, education, professional experience and differences in viewpoints and skills. While our nominating and corporate governance committee does not have a formal policy with respect to diversity, our board and nominating and corporate governance committee believe that it is essential that the board members represent diverse viewpoints. The committee does not assign specific weights to particular criteria and no particular criterion is a prerequisite for each prospective nominee. We believe that the backgrounds and qualifications of our directors, considered as a group, should provide a composite mix of experience, knowledge and abilities that will allow our board to promote our strategic objectives and fulfill its responsibilities to our stockholders.

The director nominee biographies appearing above under "Proposal 1 – Election of Class II Directors" indicate each nominee's experience, qualifications, attributes and skills that led our nominating and corporate governance committee and board to conclude that he or she should continue to serve as a member of our board. Our nominating and corporate governance committee and board believe that each of the nominees has had substantial achievement in his or her professional and personal pursuits, and possesses the background, talents and experience that our board desires and that will contribute to the best interests of our company and to long-term stockholder value.

Stockholder Nominations

Stockholders may recommend individuals to our nominating and corporate governance committee for consideration as potential director candidates by submitting their names, together with appropriate biographical information and background materials and, if the stockholder is not a stockholder of record, 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 a year as of the date such recommendation is made, to the Nominating and Corporate Governance Committee, c/o Corporate Secretary, Alnylam Pharmaceuticals, Inc., 300 Third Street, Cambridge, Massachusetts 02142. Assuming that appropriate biographical and background material has been provided on a timely basis, the 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. Stockholders also have the right under our bylaws to nominate director candidates directly, without any action or recommendation on the part of the committee or the board, by following the procedures set forth below under the heading “Stockholder Proposals.”

At the annual meeting, stockholders will be asked to consider the election of Dr. Ausiello, Mr. Clarke and Ms. Fanucci, each of whom currently serves on our board of directors. Dr. Ausiello, Mr. Clarke and Ms. Fanucci were proposed to our board by our nominating and corporate governance committee and our board determined to include them as its nominees.

Communicating with the Independent 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 chair of our board (if an independent director), the lead director (if one is appointed), or otherwise the chair of our nominating and corporate governance committee, 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 chair of our board (if an independent director), or the lead director (if one is appointed), or otherwise the chair of our nominating and corporate governance committee, considers to be important for the directors to know. In general, communications relating to corporate governance and long-term corporate strategy are more likely to be forwarded than communications relating to ordinary business affairs, personal grievances and matters as to which we tend to receive repetitive communications.

Stockholders who wish to send communications on any topic to our board should address such communications to the Board of Directors, c/o Corporate Secretary, Alnylam Pharmaceuticals, Inc., 300 Third Street, Cambridge, Massachusetts 02142.

Report of the Audit Committee

Our audit committee reports to and acts on behalf of our board by providing oversight of our financial management, related person transaction policies and procedures, audits of our financial statements and financial reporting controls and accounting policies and procedures. Our management is responsible for the preparation, presentation and integrity of our financial statements, the appropriateness of our accounting principles and reporting policies, and for establishing and maintaining adequate internal control over financial reporting. The independent registered public accounting firm is responsible for conducting an independent audit of our annual financial statements and our internal control over financial reporting. Our audit committee is responsible for independently overseeing the conduct of these activities by our management and our independent registered public accounting firm.

Our audit committee operates under a written charter adopted by our board that reflects standards contained in the NASDAQ Marketplace Rules. Our audit committee reviews its charter annually. A complete copy of the current audit committee charter is posted on the Corporate Governance page of the Investors section of our website, www.alnylam.com.

Our audit committee has reviewed our audited financial statements for the fiscal year ended December 31, 2014, and has discussed them with our management and our independent registered public accounting firm, PricewaterhouseCoopers LLP. Our audit committee has also received from, and discussed with, PricewaterhouseCoopers LLP various communications that PricewaterhouseCoopers LLP is required to provide to our audit committee, including the matters required to be discussed by the Public Company Accounting Oversight Board, or PCAOB, Auditing Standard No. 16, *Communications with Audit Committees*, as amended, which requires the independent registered public accounting firm to provide the audit committee with additional information regarding the scope and results of the audit, including the independent registered public accounting firm’s responsibilities under PCAOB standards, significant issues or disagreements concerning our accounting practices or financial statements, significant accounting policies, significant accounting adjustments, alternative accounting treatments, accounting for significant unusual transactions, and estimates, judgments and uncertainties.

In addition, PricewaterhouseCoopers LLP provided our audit committee with the written disclosures and the letter required by PCAOB Rule 3526, *Communication with Audit Committees Concerning Independence*, as amended, and our audit committee and PricewaterhouseCoopers LLP have discussed its independence from us and our management, including the matters in those written disclosures.

In this context, our audit committee meets regularly with PricewaterhouseCoopers LLP and our management (including private sessions with each of PricewaterhouseCoopers LLP and members of management) to discuss any matters that our audit committee or these individuals believe should be discussed. Our audit committee conducts a meeting each quarter to review the financial statements prior to the public release of earnings.

Based on its discussions with management and PricewaterhouseCoopers LLP, and its review of the representations and information provided by management and PricewaterhouseCoopers LLP, our audit committee recommended to our board that the audited financial statements be included in our Annual Report on Form 10-K for the year ended December 31, 2014. Our audit committee also recommended to our board, and our board has approved, subject to stockholder ratification, the appointment of PricewaterhouseCoopers LLP as our independent auditors for the fiscal year ending December 31, 2015.

By the audit committee of the board of directors of Alnylam,

Kevin P. Starr, Chair
 John K. Clarke
 Marsha H. Fanucci

Principal Accountant Fees and Services

The following table summarizes the fees that our independent auditors, PricewaterhouseCoopers LLP, an independent registered public accounting firm, billed to us for each of the last two fiscal years for audit and other services:

| <u>Fee Category</u> | <u>2014</u> | <u>2013</u> |
|---------------------------------|------------------|------------------|
| Audit Fees(1) | \$835,500 | \$619,000 |
| Audit-Related Fees(2) | 48,000 | — |
| Tax Fees | — | — |
| All Other Fees(3) | 1,800 | 1,800 |
| Total Fees | <u>\$885,300</u> | <u>\$620,800</u> |

(1) “Audit Fees” consist of fees for the audit of our annual financial statements, the review of the interim financial statements included in our quarterly reports on Form 10-Q and other professional services provided in connection with regulatory filings or audit engagements. In 2014, this amount also includes \$236,000 billed for accounting consultations. In 2013, this amount also includes \$75,000 for a comfort letter and associated fees in connection with our equity offering, as well as \$25,000 billed for accounting consultations.

- (2) "Audit-Related Fees" represent payment for partial procedures completed for a comfort letter.
- (3) "All Other Fees" represent payment for access to the PricewaterhouseCoopers LLP on-line accounting research database.

All such accountant services and fees were pre-approved by our audit committee in accordance with the "Pre-Approval Policies and Procedures" described below.

Pre-Approval Policies and Procedures

Our audit committee is required to pre-approve all audit services to be provided to us by our principal independent auditors, as well as all other services to be provided to us by such independent auditors, except that de minimis non-audit services may be approved in accordance with applicable SEC rules.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Policies and Procedures for Related Person Transactions

Our board has adopted written policies and procedures for the review of any transaction, arrangement or relationship in which Alnylam is a participant, the amount involved exceeds \$120,000, and one of our executive officers, directors, director nominees or 5% stockholders (or their immediate family members), each of whom we refer to as a "related person," has a direct or indirect material interest.

If a related person proposes to enter into such a transaction, arrangement or relationship, which we refer to as a "related person transaction," the related person must report the proposed related person transaction to our chief legal officer. The policy calls for the proposed related person transaction to be reviewed by our chief legal officer and, if deemed appropriate, approved by our audit committee. Whenever practicable, the reporting, review and approval will occur prior to entry into the transaction. If advance review and approval is not practicable, our audit committee will review, and, in its discretion, may ratify the related person transaction. The policy also permits the chair of our audit committee to review and, if deemed appropriate, approve proposed related person transactions that arise between committee meetings, subject to ratification by our audit committee at its next meeting. Any related person transactions that are ongoing in nature will be reviewed annually.

A related person transaction reviewed under the policy will be considered approved or ratified if it is authorized by our audit committee after full disclosure of the related person's interest in the transaction. As appropriate for the circumstances, our audit committee will review and consider:

- the related person's interest in the related person transaction;
- the approximate dollar value of the amount involved in the related person transaction;
- the approximate dollar value of the amount of the related person's interest in the transaction without regard to the amount of any profit or loss;
- whether the transaction was undertaken in the ordinary course of our business;
- whether the terms of the transaction are no less favorable to us than terms that could have been reached with an unrelated third party;
- the purpose of, and the potential benefits to us of, the transaction; and
- any other information regarding the related person transaction or the related person in the context of the proposed transaction that would be material to investors in light of the circumstances of the particular transaction.

Our audit committee may approve or ratify the transaction if the committee determines that, under all of the circumstances, the transaction is not inconsistent with our best interests. Our audit committee may impose any conditions on the related person transaction that it deems appropriate.

In addition to related person transactions that are excluded by the instructions to the SEC's related person transaction disclosure rule, our board has determined that the following transactions do not create a material direct or indirect interest on behalf of related persons and, therefore, are not related person transactions for purposes of this policy:

- interests arising solely from the related person's position as an executive officer of another entity (whether or not the person is also a director of such entity), that is a participant in the transaction, where (a) the related person and all other related persons own in the aggregate less than a 10% equity interest in such entity, and (b) the related person and his or her immediate family members are not involved in the negotiation of the terms of the transaction and do not receive any special benefits as a result of the transaction; and
- a transaction that is specifically contemplated by provisions of our charter or bylaws.

The policy provides that transactions involving the compensation of our executive officers shall be reviewed and approved by our compensation committee in the manner specified in its charter.

Related Person Transactions

In January 2014, we entered into a global, strategic collaboration with Genzyme to discover, develop and commercialize RNAi therapeutics as genetic medicines to treat orphan diseases. In consideration for the rights granted to Genzyme under the collaboration and pursuant to the terms of a stock purchase agreement, we sold to Genzyme 8,766,338 shares of our common stock and Genzyme paid us \$700.0 million in aggregate cash consideration, which resulted in Genzyme owning approximately 12% of our common stock upon the closing of the stock purchase in February 2014. At the closing of the stock purchase, we and Genzyme entered into an investor agreement, which, amongst other things, provides Genzyme with the right, subject to certain exceptions, generally to maintain its ownership position in us until Genzyme owns less than 7.5% of our outstanding common stock, subject to certain additional limited rights of Genzyme to maintain its ownership percentage.

In accordance with the investor agreement, as a result of our issuance of shares in connection with our acquisition of Sirna Therapeutics, Inc. in March 2014, Genzyme exercised its right to purchase an additional 344,448 shares of our common stock. In addition, as part of its rights under the investor agreement, Genzyme has the right each January to purchase a number of shares of our common stock based on the number of shares we issued during the previous year for compensatory purposes. Genzyme exercised this right to purchase directly from us 196,251 shares of our common stock on January 22, 2015 for approximately \$18.3 million. Also in January 2015, in connection with our public offering, Genzyme exercised its right to purchase directly from us, in concurrent private placements, 744,566 shares of common stock at the public offering price resulting in approximately \$70.7 million in proceeds to us. In each instance, the purchases by Genzyme allowed Genzyme to maintain its ownership level of our common stock of approximately 12%.

The purchases by Genzyme were approved in advance by our board of directors.

In February 2015, we entered into an evaluation agreement with Arsia Therapeutics pursuant to which we will evaluate the use of Arsia's technology with our technology. In connection with the evaluation agreement, we agreed to pay Arsia up to approximately \$150,000 for materials and services. Amy Schulman is the Chief Executive Officer of Arsia and one of our directors.

The transaction with Arsia was approved in advance by our audit committee pursuant to our related person transaction policy.

Other than the sales of shares to Genzyme and the Arsia evaluation agreement described above, we have not been a participant in any transaction, nor is there any currently proposed transaction, that is reportable under Item 404(a) of Regulation S-K.

INFORMATION ABOUT EXECUTIVE OFFICER AND DIRECTOR COMPENSATION

Compensation Discussion and Analysis

Our compensation committee is responsible for overseeing the total compensation of our senior management team, which is comprised of our NEOs and all of our vice presidents. In this capacity, our compensation committee designs, implements, reviews and approves all compensation for our chief executive officer and our other NEOs. This section discusses the principles underlying our policies and decisions with respect to the compensation of our NEOs who are named in the Summary Compensation Table below, and all material factors relevant to an analysis of these policies and decisions. Our NEOs are:

- John M. Maraganore, Ph.D., our Chief Executive Officer;
- Barry E. Greene, our President and Chief Operating Officer;
- Akshay K. Vaishnav, M.D., Ph.D., our Executive Vice President, Research and Development and Chief Medical Officer;
- Laurie B. Keating, our Senior Vice President, General Counsel and Secretary; and
- Michael P. Mason, our Vice President of Finance and Treasurer.

Executive Summary

The goal of our compensation committee is to ensure that our compensation programs are aligned with the interests of our stockholders and our business goals and that the total compensation paid to each of our NEOs is fair, reasonable and competitive. Key elements of our compensation programs include:

- base salary, positioned within the range of the market median to enable us to attract and retain the talent needed to continue to drive our business successfully;
- an annual cash incentive program tied to the achievement of pre-determined quantitative and qualitative corporate performance goals, under which cash incentives are awarded only if corporate performance against goals is at least 50% and awards are capped at a specified target percentage, which cap was 120% for 2014; and
- equity incentive compensation, which is provided to all employees, primarily in the form of stock options, with annual awards subject to an equal mix of multi-year time-based vesting based on continued service and performance-based vesting based upon the achievement of development and regulatory milestones, in order to align employee interests with those of our stockholders over the longer-term, with the reward value dependent on the performance of our common stock.

In addition to our direct compensation elements, the following compensation program features are designed to align our executive team with stockholder interests and market best practices:

- *Pay-for-Performance*: A significant percentage of our executive officer compensation is at-risk and may not be realized if corporate goals are not achieved. We do not provide our executive officers with guaranteed annual salary increases or guaranteed bonuses.
- *Performance-Based Long-Term Incentives*: For 2014, 50% of the value of our executive officer's annual equity awards were delivered in the form of performance-based stock option awards that vest in three equal installments based upon the achievement of three pre-specified clinical development and regulatory milestones. These stock option awards were approved in December 2014, but are subject to and contingent upon receiving stockholder approval of the Amended 2009 Plan.
- *Perquisites*: We do not offer our executive team any substantially enhanced benefits or perquisites when compared to our employee population.
- *No Change-of-Control Benefits or Gross-Ups*: We do not provide for change-in-control remuneration to our employees and, as such, do not offer any tax gross-up payments to our executive officers. We do not have employment agreements with any of our executive officers pursuant to which they are eligible for potential severance payments upon termination or in connection with a change-in-control of Alnylam.

- *No Hedging or Pledging*: We prohibit our executive team from engaging in hedging transactions with our securities or pledging our securities.
- *Clawback Policy*: We have a clawback policy that covers our chief executive officer and our principal accounting officer, as well as all of our vice presidents. The policy provides that covered executives who engage in misconduct, including embezzlement, fraud, willful misconduct or breach of fiduciary duty, resulting in a financial restatement shall be required, upon the determination of our board of directors, to repay the company any excess proceeds from incentive compensation earned during the covered period.
- *Independent Compensation Consultant*: Our compensation committee engages independent consultants to advise it on topics related to board and executive compensation.

As described below, during 2014, we made significant progress on our clinical development and business development goals, including but not limited to:

- Continued enrollment in our APOLLO Phase 3 study of patisiran in transthyretin-mediated amyloidosis, or ATTR patients with familial amyloidotic polyneuropathy, or FAP;
- Reported positive six-month clinical data from our patisiran Phase 2 open-label extension, or OLE study;
- Initiated our ENDEAVOUR Phase 3 study with revusiran to evaluate the efficacy and safety of revusiran in ATTR patients with familial amyloidotic cardiomyopathy, or FAC;
- Presented positive initial Phase 2 data with revusiran; initiated our Phase 2 OLE study with revusiran to evaluate tolerability and clinical activity with long-term dosing for up to two years;
- Reported positive initial results from our Phase 1 trial of ALN-AT3 in development for the treatment of hemophilia;
- Filed a Clinical Trial Application, or CTA, to initiate a Phase 1/2 trial with ALN-CC5, which will be conducted initially in normal human volunteers, and then in patients with paroxysmal nocturnal hemoglobinuria, or PNH;
- Filed a CTA to initiate a Phase 1 trial with ALN-AS1 in acute intermittent porphyria, or AIP patients;
- Initiated a Phase 1 trial with ALN-PCSsc in normal human volunteers with elevated LDL-C at baseline;
- Selected a Development Candidate, or DC, for ALN-HBV, for the treatment of hepatitis B virus infection;
- Advanced our GalNAc-siRNA platform with our Enhanced Stabilization Chemistry (ESC) GalNAc conjugate technology that enables subcutaneous dosing with increased potency, durability and a wide therapeutic index;
- Entered into a transformational alliance with Genzyme relating to our Genetic Medicine Strategic Therapeutic Area, or STAR;
- Acquired the RNAi assets of Merck Sharp & Dohme Corp., including Sirna Therapeutics, Inc., extending and complementing our progress and continued focus on RNAi therapeutics and accelerating our overall efforts to develop and commercialize siRNA delivery technologies, including GalNAc conjugate technology; and
- Exceeded our year-end cash guidance, ending the year with approximately \$882 million in cash, cash equivalents and marketable securities.

In addition, as a result of positive clinical results and strong business progress, our stock price appreciated 51% during 2014. Based on our performance during 2014, our board determined that we achieved 107.5% of our corporate goals for 2014, including substantially all of our pipeline goals, which allows us to advance multiple clinical stage programs in 2015, including two programs in Phase 3.

Say-on-Pay Feedback from Stockholders

We pay careful attention to any feedback we receive from our stockholders about our executive compensation program. At our 2011 annual meeting of stockholders, a majority of our stockholders supported an annual advisory vote on our executive compensation and, in response, our board of directors determined to hold an annual vote on the matter. In 2012, we submitted our executive compensation program to an advisory vote of our stockholders and it received the support of over 90% of the total votes cast at our 2012 annual meeting of stockholders. In 2013, our executive compensation program received the support of over 94% of the total votes cast at our 2013 annual meeting. In 2014, our executive compensation program received the support of over 97% of the total votes cast at our 2014 annual meeting of stockholders. Our compensation committee believes that the stockholders, through this advisory vote, generally endorsed our compensation philosophies and, thus, our compensation committee maintained the basic structure and design of our executive compensation program for fiscal year 2015; however, our compensation committee is evaluating the total compensation program, in particular our equity incentive compensation, and expects to make adjustments beginning in 2015. Our compensation committee will review the results of future annual advisory votes and consider this feedback as it completes its annual review of each pay element and the total compensation packages for our NEOs with respect to the next fiscal year.

Compensation Consultants

Pursuant to its charter, our compensation committee has the authority to select and retain independent advisors and counsel to assist it with carrying out its duties and responsibilities, and we have provided appropriate funding to the compensation committee to do so. The compensation committee has exercised this authority to engage Towers Watson, as an independent compensation consultant. Towers Watson serves as an advisor to our compensation committee on topics primarily related to board and executive compensation and peer group evaluation. Towers Watson reports directly to our compensation committee Chair on the matters on which it has been retained. We and our compensation committee also utilize the services of Radford, an Aon Hewitt Company, to advise us on matters relating to our total compensation program, our equity compensation and our future equity compensation strategy.

Our compensation committee regularly reviews the services provided by its outside consultants and believes that Towers Watson and Radford are independent in providing executive compensation consulting services. Our compensation committee has assessed the independence of Towers Watson and Radford consistent with NASDAQ listing standards and has concluded that the engagement of Towers Watson and Radford does not raise any conflict of interest. Our compensation committee continues to monitor the independence of its compensation consultants on a periodic basis.

Determining and Setting Executive Compensation

We develop our compensation programs after reviewing publicly available compensation data and subscription survey data for our peer group, provided by Towers Watson, as well as survey data from Radford.

Defining and Comparing Compensation to Market Benchmarks

In evaluating the total compensation of our NEOs, our compensation committee, using information provided by Towers Watson, establishes a peer group of publicly traded, national and regional companies in the biopharmaceutical and biotechnology industries that is selected based on a balance of the following criteria:

- companies whose organizational structure, number of employees, stage of development, market capitalization, and research and development expenditures are similar, though not necessarily identical, to ours;
- companies with similar executive positions to ours;
- companies against which we believe we compete for executive talent; and
- public companies with substantial operations in the United States whose compensation and financial data are available in proxy statements or other public documents.

Based on these criteria, our peer group for 2014, referred to as our 2014 peer group, was comprised of the following companies:

| | | |
|--------------------------------|--------------------------------|------------------------------|
| ACADIA Pharmaceuticals Inc. | Incyte Corporation | Pacira Pharmaceuticals, Inc. |
| Acorda Pharmaceuticals, Inc. | InterMune, Inc. | Pharmacyclics Inc. |
| Aegerion Pharmaceuticals, Inc. | Ironwood Pharmaceuticals, Inc. | Puma Biotechnology, Inc. |
| Alkermes plc | Isis Pharmaceuticals, Inc. | Seattle Genetics, Inc. |
| BioMarin Pharmaceutical Inc. | Medivation, Inc. | Synageva BioPharma Corp. |
| Celldex Therapeutics, Inc. | NPS Pharmaceuticals, Inc. | Theravance, Inc. |
| Clovis Oncology, Inc. | | |

The peer group for our NEOs is approved by our compensation committee.

We believe that the compensation practices of our 2014 peer group provided us with appropriate compensation benchmarks for evaluating the compensation of our NEOs during 2014. Notwithstanding the similarities of the 2014 peer group to Alnylam, due to the nature of our business, we compete for executive talent with many companies that are larger and more established than we are or that possess greater resources than we do, as well as with prestigious academic and non-profit institutions. Accordingly, in 2014, our compensation committee generally targeted compensation for our executive officers as follows:

- base salaries between the 50th and 60th percentiles of the salaries in our 2014 peer group;
- annual cash incentive award opportunities at or below the 50th percentile of our 2014 peer group;
- total annual equity incentive awards, provided entirely in the form of stock options with value tied to stock price appreciation, at or above the 75th percentile of our 2014 peer group; and
- total compensation for our NEOs between the 50th and 75th percentiles of compensation paid to similarly situated executives of the companies in our 2014 peer group; however, because we have a pay-for-performance philosophy, actual compensation levels are correlated to the achievement of corporate goals.

Because a significant portion of our total compensation is tied to equity incentive compensation, total compensation for our NEOs has been higher than the 75th percentile due to the significant appreciation in our stock price over the last two years. In light of this, our compensation committee is reviewing our equity incentive compensation, with assistance from Radford, our compensation consultant, and expects to make adjustments beginning in 2015.

Our compensation committee may consider other criteria, including market factors, the experience level of the executive and the executive's performance against established corporate goals, in determining variations to this general target range.

Other Key Performance Factors in Determining Executive Compensation

As the biopharmaceutical industry is characterized by a very long product development cycle, including a lengthy research and development period and a rigorous approval phase involving human testing and governmental regulatory approval, many of the traditional benchmarking metrics, such as product sales, revenues and profits are inappropriate for a development-stage biopharmaceutical company, such as Alnylam. Instead, the specific performance factors our compensation committee considers when determining the compensation of our NEOs include:

- key research and development achievements, including advances in RNAi delivery and technology;
- initiation and progress of clinical trials;
- achievement of regulatory milestones;
- establishment and maintenance of key strategic relationships and new business initiatives;
- filing, prosecution, defense and enforcement of key intellectual property rights;
- development of organizational capabilities; and
- financial and operating performance.

These performance factors are considered by our compensation committee in connection with our annual performance reviews described below and are a critical component in the determination of annual cash and equity incentive awards for our executives.

Annual Performance Reviews

Our compensation committee conducts an annual performance review of our NEOs and approves the compensation of each member of our senior management team. During the first quarter of each year, annual corporate goals and individual performance objectives are determined and set forth in writing. At the beginning of the second half of each year, senior management formally reviews performance against goals for the first half of the year and re-aligns key goals for the second half of the year. At the end of each year, our compensation committee determines executive compensation levels after carefully reviewing overall corporate performance and performing a detailed evaluation of each NEO's annual performance against established corporate goals, as well as each NEO's contributions to achievement of the corporate goals. In addition, our compensation committee may apply its discretion, as it deems appropriate, in determining executive compensation.

Annual corporate goals are proposed by our senior management team and approved by our board. For 2014, the individual objectives for our executive officers were the same as the corporate goals. Individual objectives for 2014 for the remaining members of our senior management team focused on contributions that were intended to drive achievement of the corporate goals and were proposed by each non-executive member of senior management, with review and input from our chief executive officer. Any merit increases in base salary and any annual stock option awards or cash awards made under our 2014 annual incentive program were based on the achievement of these corporate and individual performance goals and objectives. In 2014, our compensation committee established the maximum cash bonus opportunity for each member of our senior management team under the 2014 annual incentive program, representing a percentage of each individual's base salary.

During the last quarter of each year, our senior management team evaluates our corporate performance and each NEO's individual performance, as compared to the corporate goals for that year. Based on this evaluation, our chief executive officer recommends to our compensation committee any increases in base salary and any annual stock option awards and/or cash awards under our annual incentive program. Our compensation committee, with input from the chairman of our board, evaluates our chief executive officer's individual performance and determines whether to change his base salary, grant him an annual stock option award and/or grant him a cash award under our annual incentive program. Our compensation committee typically grants annual stock option awards, and determines changes in base salary and the amount of any cash incentive payments, at its last regularly scheduled meeting of the year. Our compensation committee may also review the

compensation of our NEOs throughout the course of the year. With respect to year-end reviews, any changes in base salary are effective at the beginning of the following year. The cash incentive payments awarded under our 2014 annual incentive program were paid in January 2015.

Compensation Objectives and Philosophy

Our compensation programs are designed to attract, motivate and retain qualified and talented executives, motivating them to achieve our business goals and rewarding them for superior short- and long-term performance. In particular, our compensation programs are intended to reward the achievement of specified pre-determined quantitative and qualitative individual and corporate performance goals and objectives and to align the interests of our senior management team with those of our stockholders in order to attain our ultimate objective of increasing stockholder value.

We award annual merit-based increases in base salary based upon an assessment of each executive's performance and the scope of his or her responsibilities. Our 2014 annual incentive program was designed to reward annual achievements as measured against pre-determined quantitative and qualitative corporate performance goals, and, with respect to non-executive officers, individual objectives. We awarded cash incentive payments to our NEOs and the other members of our senior management team under our 2014 annual incentive program, which is described in more detail below. In 2015, our NEOs will be eligible to receive cash awards under our 2015 annual incentive program.

We typically grant stock options to our executive officers upon commencement of their employment in the form of a new hire grant, annually following a review of their individual performance and in connection with a promotion. With the exception of our 2014 annual cash incentive program, we do not have any pre-established targets for allocations or apportionment by type of compensation. The mix of compensation components is designed to reward annual results as well as drive long-term company performance and create stockholder value.

Base Salary

We provide base salaries to our NEOs to compensate them with a fair and competitive base level of compensation for services rendered during the year. Our compensation committee typically determines the base salary for each executive based on the executive's responsibilities, experience and, if applicable, the base salary level of the executive prior to joining Alnylam. In addition, our compensation committee reviews and considers the level of base salary paid by companies in our peer group for similar positions. Generally, our compensation committee believes our executives' base salaries should be targeted between the 50th and 60th percentiles of the salaries in our peer group.

Merit-based increases in base salary for all of our executive officers, other than our chief executive officer, are approved by our compensation committee based upon a recommendation from our chief executive officer. Any merit-based increase in base salary for our chief executive officer is based upon an assessment of his performance by our compensation committee, input from the chairman of our board and a review by our compensation committee of the base salary of chief executive officers in our peer group.

With respect to Dr. Maraganore, our chief executive officer, in December 2014, our compensation committee reviewed Dr. Maraganore's overall compensation and determined, based on his accomplishments during the year, including the achievement of substantially all of our 2014 corporate goals, to increase his annual base salary to \$710,273 from \$689,585.

At the end of 2014, our compensation committee approved increases in base salary for each of our remaining NEOs, based upon the company's performance against the corporate goals, as well as each NEO's individual contribution to the achievement of those corporate goals. The table below sets forth the adjustments to base salary, in dollars and as a percentage, for each of our NEOs:

| Base Salary Adjustments | | | |
|---|-------------------------|-------------------------|---------------------|
| <u>Name</u> | <u>2014 Base Salary</u> | <u>2015 Base Salary</u> | <u>Increase (%)</u> |
| John M. Maraganore, Ph.D. | \$689,585 | \$710,273 | 3.0% |
| Barry E. Greene | \$515,000 | \$530,450 | 3.0% |
| Akshay K. Vaishnav, M.D., Ph.D. | \$463,500 | \$486,675 | 5.0% |
| Laurie B. Keating* | \$400,000 | \$404,000 | 1.0% |
| Michael P. Mason** | \$257,187 | \$300,021 | 16.7% |

* Ms. Keating joined the company in September 2014 and received a pro-rated base salary adjustment for 2014.

** Mr. Mason received a 5% merit increase, as well as an 11.7% market adjustment following a review of his base salary versus similar positions in our 2014 peer group.

2014 Annual Incentive Program

Our compensation committee aims to determine an appropriate mix of cash payments and equity incentive awards to meet short- and long-term goals and objectives. In February 2014, our compensation committee approved the annual incentive program for 2014, including the opportunity for eligible participants to achieve incentive awards above established bonus targets based on the company's performance against 2014 corporate goals. Each potential bonus award for 2014 ranged from 0% to 120% of the individual's target award, thus making 120% of each individual's target award the maximum bonus award achievable in 2014.

The table below shows the target award under the incentive program as a percentage of each NEO's annual base salary in 2014, the maximum cash award opportunity in dollars for 2014 and the actual cash bonus payments to our NEOs for 2014 performance, which were paid in January 2015, as well as the actual bonus payment as a percentage of the target award opportunity. The details regarding the determination of these cash bonus awards are discussed below.

| 2014 Annual Incentive Program | | | | |
|---|---|---------------------------------------|----------------------------------|--|
| <u>Name</u> | <u>2014 Target Award (% of Base Salary)</u> | <u>2014 Maximum Award Opportunity</u> | <u>2014 Actual Bonus Payment</u> | <u>2014 Actual Bonus Payment (% of Target Award Opportunity)</u> |
| John M. Maraganore, Ph.D. | 60% | \$496,501 | \$444,000 | 107.5% |
| Barry E. Greene. | 50% | \$309,000 | \$276,000 | 107.5% |
| Akshay K. Vaishnav, M.D., Ph.D. | 50% | \$278,100 | \$249,000 | 107.5% |
| Laurie B. Keating* | 40% | \$ 64,000 | \$ 57,000 | 107.5% |
| Michael P. Mason | 30% | \$ 92,587 | \$ 82,000 | 107.5% |

* Ms. Keating's award opportunity was pro-rated based on her September 2014 hire date.

Under the 2014 annual incentive program, bonus awards were determined by first establishing a bonus pool, calculated by aggregating the maximum awards for all eligible plan participants and then multiplying that sum by a modifier established by our compensation committee based on our performance as measured against the 2014 corporate goals. Under the 2014 annual incentive program, the corporate performance level on which such modifier was based could range from 0% to 120%, provided that if the corporate performance level for 2014 was determined to be below 50%, the program provided that the corporate performance modifier would be 0% and no awards would be granted under the incentive program. The bonus pool was then allocated among all of the plan

participants in accordance with the terms of the 2014 annual incentive program. Bonus awards for NEOs in 2014 were based upon achievement of our corporate goals. In addition, our compensation committee had the discretion under the 2014 annual incentive program to adjust upward or downward any bonus award and/or the bonus pool as it deemed appropriate. The compensation committee did not exercise such discretion in 2014.

In making its determination regarding awards under the 2014 annual incentive program, our compensation committee considered our success against our 2014 corporate goals. The 2014 corporate goals approved by our board, the relative weightings assigned to each goal, our actual achievement during the performance period as a percentage of target and the weighted performance against these corporate goals for 2014, as approved by our compensation committee and our full board, were as follows:

| <u>2014 Corporate Goals</u> | <u>Relative Weighting</u> | <u>Actual Achievement For 2014 (As% of Target)</u> | <u>Weighted Performance</u> |
|--|---------------------------|--|-----------------------------|
| • Execute on “Alnylam 5x15” and Genetic Medicine pipeline, including: | | | |
| ○ Continue to advance patisiran in APOLLO Phase 3 pivotal clinical trial and Phase 2 OLE study; | 15% | 100% | 15% |
| ○ Continue to advance revusiran in Phase 2 clinical trial, initiate Phase 2 OLE study and start Phase 3 pivotal clinical trial in ATTR patients with cardiac amyloidosis; | 15% | 100% | 15% |
| ○ Start Phase 1 clinical trial with ALN-AT3 and report initial data; | 15% | 100% | 15% |
| ○ File two investigational new drug, or IND, applications (or foreign equivalents) from ongoing programs, including ALN-CC5, ALN-AS1 and ALN-PCSSc, in late 2014, and one IND application in early 2015; | 20% | 100% | 20% |
| ○ Select one to two development candidates from the Genetic Medicine pipeline by end of 2014; and | 10% | 100% | 10% |
| ○ Exceed certain specified pipeline advancement timelines and metrics. | +20% | 50% | +10% |
| • Advance key manufacturing and research/platform objectives | 10% | 75% | 7.5% |
| • Achieve a year-end cash balance of greater than \$825 million. | 15% | 100% | 15% |
| Approved 2014 Corporate Performance Level | 120% | | 107.5% |

Equity Awards

Our equity awards program is designed to:

- reward demonstrated leadership and performance;
- align our executive officers’ interests with those of our stockholders;
- retain our executive officers through the vesting period of the awards;
- maintain competitive levels of executive compensation; and
- motivate our executive officers for outstanding future performance.

The market for qualified and talented executives in the biopharmaceutical industry is highly competitive and we compete for talent with many companies that have greater resources than we do. Accordingly, we believe equity compensation is a crucial component of any competitive executive compensation package we offer.

Historically, our equity awards have taken the form of stock options. We typically grant stock options to each of our executive officers upon commencement of employment, annually in conjunction with our review of individual performance and in connection with a promotion.

All stock option awards to our executive officers are approved by our compensation committee and, other than stock option awards to new hires, are typically granted at our compensation committee's regularly scheduled meeting at the end of the year. Stock option awards vary among our executive officers based on their positions and annual performance assessments. In addition, our compensation committee reviews all components of the executive's compensation to ensure that his or her total compensation is aligned with our overall philosophy and objectives. All stock options granted to our executives have exercise prices equal to the fair market value of our common stock on the date of grant, so that the recipient will not earn any compensation from his or her options unless our share price increases above the value on the date of grant. Accordingly, this portion of our executive officers' compensation is at risk and is directly aligned with stockholder value creation.

Stock options granted to our executive officers upon hiring typically vest over four years, which we believe provides an incentive to our executives to add value to the company over the long-term and to remain with Alnylam.

Beginning in 2013, our compensation committee began granting annual stock option awards with both time-based and performance-based vesting terms. Generally, annual stock options will include a vesting schedule whereby 50% of the grant has time-based vesting over four years, while the remaining 50% of the grant will vest in thirds upon the achievement of certain pre-determined performance milestones that are expected to occur in a staggered fashion over a three to four year period.

Time-vested stock options generally vest as to 25% of the shares on the first anniversary of the grant date and as to an additional 6.25% of the shares at the end of each successive three-month period thereafter until the fourth anniversary of the grant date. With respect to the 2014 performance-based portion of the annual stock option awards, including the Contingent Option Awards described below, one-third of the shares subject to the performance-based option will vest upon the later of the one year anniversary of the date of grant and the achievement of each of the following three specific clinical development and regulatory events, as approved by our compensation committee:

- completion of patient enrollment in our Phase 3 APOLLO study;
- the start of a third Phase 3 clinical trial; and
- receipt of the first regulatory approval for an Alnylam product.

Performance vesting criteria is based upon milestone events that are expected to occur in a staggered fashion over a three to four year period. Any determination as to whether or not a vesting event has been met shall be approved by our compensation committee and the date of vesting shall be the later of the date of such determination by the committee and the one year anniversary of the date of grant.

Stock option awards typically have a term of ten years. Vesting of option grants to employees typically ceases upon termination of employment and exercise rights typically cease three months following termination of employment, except in the case of death or disability. Prior to the exercise of an option, the stock option holder does not have any rights as a stockholder with respect to the shares subject to such option, including voting rights and the right to receive dividends or dividend equivalents.

In connection with the annual review of each executive officer's individual performance and consistent with our compensation philosophy, our compensation committee approved annual equity incentive awards for our executive officers. On December 17, 2014, our compensation committee approved the grant of stock options to purchase 612,085 shares of our common stock, at an exercise price of \$96.45 per share, to members of our management team, including our NEOs. These stock option grants, referred to as the Contingent Option Awards, were approved subject to and contingent upon approval by our stockholders at the 2015 annual meeting of the Amended 2009 Plan, to, among other things, increase the shares authorized for issuance thereunder. One-half of the Contingent Option Awards granted are time-based stock options and one-half are performance-based stock options, vesting as described above. In no event will the Contingent Option Awards be exercised before approval

of the Amended 2009 Plan by our stockholders; and in the event that the Amended 2009 Plan is not approved by our stockholders at the 2015 annual meeting, the Contingent Option Awards shall immediately terminate and be of no further force or effect.

The Contingent Option Awards granted to our NEOs are set forth in the table below:

| 2014 Annual Equity Incentive Awards | |
|--|--------------------------------|
| <u>Name</u> | <u>Contingent Option Award</u> |
| John M. Maraganore, Ph.D. | 150,000 |
| Barry E. Greene | 95,250 |
| Akshay K. Vaishnav, M.D., Ph.D. | 70,250 |
| Laurie B. Keating*. | 11,917 |
| Michael P. Mason. | 16,500 |

* Ms. Keating joined the company in September 2014 and received a pro-rated Contingent Option Award for 2014. Upon hire, Ms. Keating also received a stock option award to purchase 125,000 shares of common stock.

We do not have any equity ownership guidelines for our executive officers or directors, although our chief executive officer currently holds 125,525 shares of our common stock, including 10,000 shares purchased in connection with our January 2015 public offering.

Anti-Hedging and Pledging Policy: Our insider trading policy expressly prohibits all of our employees, including our NEOs, as well as our directors, from engaging in speculative transactions in our stock, including short sales, puts/calls, hedging transactions and margin accounts or pledges.

Benefits and Other Compensation

Other compensation to our executives consists primarily of the broad-based benefits we provide to all employees, including health and dental insurance, life and disability insurance, an employee stock purchase plan and a 401(k) plan, except that executive officers are not eligible to participate in our employee stock purchase plan. Our 401(k) plan is a tax-qualified retirement savings plan pursuant to which all U.S. based employees, including executive officers, are able to contribute the lesser of up to 60% of their annual salary or the limit prescribed by the Internal Revenue Service on a before-tax basis. We match, in the form of shares of our common stock, 50% of the first 6% of a plan participant’s pay that is contributed to the plan. Our contribution is made at the end of each quarter up to an annual maximum number of shares with a value of \$5,250 for each participant. Our matching contributions become 50% vested after the employee has been employed by us for one year and fully vested after the employee has been employed by us for two years.

Cash Incentive Compensation for Our Named Executive Officers in 2015

In February 2015, our compensation committee approved the annual incentive program for 2015. The terms of the 2015 annual incentive program are substantially the same as the 2014 annual incentive program, except that the 2015 annual incentive program includes an opportunity for eligible participants to achieve up to 130% of their target award percentage based on the achievement of our 2015 corporate goals, including certain specified clinical development goals. This potential upside achievement allows us to better align our cash incentive awards with market practice while reflecting our continued commitment to closely manage our cash reserves.

Compliance with IRS Code Section 162(m)

Section 162(m) of the Internal Revenue Code of 1986, as amended, also referred to as the Code, generally disallows a tax deduction to public companies for compensation in excess of \$1 million per person paid to a company’s chief executive officer and its three other officers (other than the chief/principal financial officer) whose compensation is required to be disclosed to stockholders pursuant to the Exchange Act by reason of being among the company’s most highly compensated officers. Qualified performance-based compensation is not subject to the deduction limitation if specified requirements are met. We periodically review the potential effects of Section 162(m) and we consider whether to structure the performance-based portion of our executive compensation to comply with exemptions in Section 162(m), so that the compensation remains tax deductible to

us. However, our compensation committee may, in its judgment, authorize compensation payments that do not comply with the exemptions in Section 162(m) when it believes that such payments are appropriate to attract, motivate and retain executive talent and are in our best interest and that of our stockholders.

Report of the Compensation Committee on Executive Compensation

Our compensation committee has reviewed and discussed the “Compensation Discussion and Analysis” required by Item 402(b) of Regulation S-K with management. Based upon such review and discussions, our compensation committee recommended to our board that such section be included in this proxy statement and incorporated by reference in our Annual Report on Form 10-K for the year ended December 31, 2014, which was filed with the SEC on February 13, 2015.

By the compensation committee of the board of directors of Alnylam,

Steven M. Paul, M.D., Chair

Paul R. Schimmel, Ph.D.

Kevin P. Starr

Executive Compensation

The following table sets forth the total compensation paid or accrued for the years ended December 31, 2014, 2013 and 2012 to our named executive officers.

Summary Compensation Table

| Name and Principal Position | Year | Salary (\$) | Bonus (\$) | Stock Awards \$(3) | Option Awards \$(4)(5) | Non-Equity Incentive Plan Compensation \$(7) | All Other Compensation \$(8) | Total (\$) |
|--|-------------|------------------------|-----------------------|-----------------------------------|---------------------------------------|---|---|-----------------------|
| John M. Maraganore, Ph.D. <i>Chief Executive Officer (principal executive officer)</i> | 2014 | 689,585 | — | — | — | 444,000 | 7,596 | 1,141,181 |
| | 2013 | 669,500 | — | — | 5,127,198(6) | 431,828 | 7,596 | 6,236,122 |
| | 2012 | 669,500 | — | — | 1,424,385 | 313,327 | 8,798 | 2,416,010 |
| Barry E. Greene <i>President and Chief Operating Officer</i> | 2014 | 515,000 | — | — | — | 276,000 | 7,956 | 798,956 |
| | 2013 | 500,000 | — | — | 3,206,876(6) | 268,750 | 7,746 | 3,983,372 |
| | 2012 | 474,952 | — | — | 949,590 | 195,001 | 20,665 | 1,640,208 |
| Akshay K. Vaishnav, M.D., Ph.D. <i>Executive Vice President, Research and Development and Chief Medical Officer</i> | 2014 | 463,500 | — | — | — | 249,000 | 7,596 | 720,096 |
| | 2013 | 450,000 | — | — | 1,048,375(6) | 241,875 | 7,596 | 1,747,846 |
| | 2012 | 423,275 | — | 132,174 | 474,795 | 175,500 | 6,444 | 1,212,188 |
| Laurie B. Keating(1) <i>Senior Vice President, General Counsel and Secretary</i> | 2014 | 110,769 | 100,000(2) | — | 5,035,500 | 57,000 | 1,733 | 5,305,002 |
| Michael P. Mason <i>Vice President of Finance and Treasurer (principal financial officer)</i> | 2014 | 257,187 | — | — | — | 82,000 | 6,167 | 345,354 |
| | 2013 | 252,144 | — | — | 161,289(6) | 81,316 | 6,101 | 500,850 |
| | 2012 | 247,200 | — | 82,394 | 94,959 | 57,845 | 6,204 | 488,602 |

- (1) Ms. Keating joined Alnylam as our senior vice president, general counsel and secretary in September 2014. The amount reported as salary for 2014 represents the total salary earned by Ms. Keating during 2014 and is based upon an annual salary of \$400,000. Ms. Keating was eligible to participate in the 2014 annual cash incentive program with a pro-rated award. In addition, Ms. Keating received a stock option award upon hire and a pro-rated Contingent Option Award in December 2014.
- (2) Pursuant to her letter of employment, we paid Ms. Keating a signing bonus of \$100,000 in October 2014. In the event that Ms. Keating either voluntarily terminates her employment with us, other than for good reason, or is terminated by us for cause, within the first twelve months of her employment with us, she will be required to repay the full amount of this signing bonus.
- (3) In January 2012, our board of directors approved a strategic corporate restructuring pursuant to which we reduced our overall workforce by approximately 33%. In connection with the restructuring, our compensation committee approved a company-wide retention program under which each employee, other than our chief executive officer and our president and chief operating officer, received a restricted stock award equal to one-third of his or her annual base salary. The restricted stock awards served as retention vehicles as they vested in full on the second anniversary of the grant date only if the individual remained an employee of the company. The amounts reported in the Stock Awards column represent the aggregate grant date fair value of the restricted stock awards made in 2012, calculated in accordance with the provisions of FASB ASC Topic 718. We did not grant any restricted stock awards to our NEOs in 2013 or 2014.

The amounts reported in the Summary Compensation Table for these restricted stock awards may not represent the amounts that any NEOs will actually realize from the awards. Whether, and to what extent, a NEO realizes value will depend on our actual operating performance and stock price fluctuations.
- (4) The amounts reported in the Option Awards column represent the aggregate grant date fair value for the fiscal years ended December 31, 2014, 2013 and 2012 of grants of time-vested stock options to each of the NEOs, calculated in accordance with the provisions of FASB ASC Topic 718. The assumptions we used in calculating these amounts are included in Note 9 of our audited consolidated financial statements for the year ended December 31, 2014 included in our Annual Report on Form 10-K, filed with the SEC on February 13, 2015. To see the value actually realized by the NEO from stock option exercises in 2014, see the 2014 Option Exercises and Stock Vested table appearing below.

The amounts reported in the Summary Compensation Table for these stock option awards may not represent the amounts that the NEOs will actually realize from the awards. Whether, and to what extent, a NEO realizes value will depend on our actual operating performance, stock price fluctuations and the NEO's continued employment.

- (5) The amounts reported in the Option Awards column exclude the grant date fair value of the Contingent Option Awards that are subject to and contingent upon approval by our stockholders at the 2015 annual meeting of the Amended 2009 Plan, as described above in the "Compensation Discussion and Analysis" under the heading "Equity Awards." If the stockholders approve the Amended 2009 Plan, the grant date fair value of the Contingent Option Awards would be based on a Black-Scholes valuation model based on the fair market value of the stock on the date of such stockholder approval. No stock-based compensation expense was recorded in 2014 relating to the Contingent Option Awards.
- (6) The December 18, 2013 stock option award included certain stock options that are subject to vesting upon the achievement of specific performance conditions. We determined that as of the date of the grant it was not probable, as defined under applicable accounting guidance, that any of the performance conditions would be achieved and assigned a grant date fair value based on this evaluation. If we had determined that as of the date of the grant it was probable that 100% of the performance conditions would be achieved, we would have assigned a grant date fair value for each of the NEO's performance-vesting stock option award as follows: Dr. Maraganore, \$3,078,463; Mr. Greene, \$1,847,078; Dr. Vaishnaw, \$1,334,001; and Mr. Mason, \$205,231.
- (7) The amounts reported in the Non-Equity Incentive Plan Compensation column reflect the annual cash incentive bonus earned by the NEOs for each respective year. The annual cash incentive bonuses were paid in January of the calendar year following the year to which the cash bonus relates.
- (8) The amounts reported in the All Other Compensation column reflect, for each NEO, the sum of (i) the dollar value of life insurance premiums we paid; (ii) the amount we contributed to the 401(k) plan in respect of such executive officer; and (iii) the incremental cost to us of all perquisites and other personal benefits. Specifically, the All Other Compensation column above includes:

| Name | Year | Term Life Insurance Premiums Paid by Alnylam (\$) | Dollar Value of Alnylam Common Stock Contributed by Alnylam to the Executive's Account Under 401(k) Plan (\$) | Incremental Cost to Alnylam of All Perquisites and Other Personal Benefits (\$) |
|--------------------------------------|------|---|---|---|
| John M. Maraganore, Ph.D. | 2014 | 2,346 | 5,250 | — |
| | 2013 | 2,346 | 5,250 | — |
| | 2012 | 1,080 | 5,250 | 2,468(a) |
| Barry E. Greene | 2014 | 2,346 | 5,250 | 360(b) |
| | 2013 | 2,346 | 5,250 | 150(b) |
| | 2012 | 1,070 | 5,250 | 14,345(c) |
| Akshay K. Vaishnaw, M.D., Ph.D. | 2014 | 2,346 | 5,250 | — |
| | 2013 | 2,346 | 5,250 | — |
| | 2012 | 864 | 5,250 | 330(b) |
| Laurie B. Keating | 2014 | 1,733 | — | — |
| Michael P. Mason | 2014 | 557 | 5,250 | 360(b) |
| | 2013 | 491 | 5,250 | 360(b) |
| | 2012 | 594 | 5,250 | 360(b) |

- (a) Represents amounts for travel and related expenses, paid by Alnylam, including \$938 in 2012, as gross-ups for the related tax liability, for the executive's spouse to accompany the executive to certain industry events that spouses were expected to attend.
- (b) Represents amounts for an employee fitness benefit, paid by Alnylam.
- (c) Represents amounts for travel and related expenses, paid by Alnylam, including \$5,451 in 2012, as gross-ups for the related tax liability, for the executive's spouse to accompany the executive to certain industry events that spouses were expected to attend.

The following table sets forth information concerning each grant of an award made to a named executive officer during the fiscal year ended December 31, 2014 under any plan, contract, authorization or arrangement pursuant to which cash, securities, similar instruments or other property may be received:

2014 Grants of Plan-Based Awards

| Name | Date of Grant(1) | Date of Compensation Committee Approval(3) | Estimated Future Payouts Under Non-Equity Incentive Plan Awards(4) | | | Estimated Future Payouts Under Equity Incentive Plan Awards(5) | | | All Other Awards: Number of Securities Underlying Options(#) | Exercise or Base Option Price of Awards (\$) | Grant Date Fair Value of Stock and Option Awards (\$)(7) |
|---|-------------------------|--|--|-------------|--------------|--|------------|-------------|--|--|--|
| | | | Threshold (\$) | Target (\$) | Maximum (\$) | Threshold (#) | Target (#) | Maximum (#) | | | |
| John M. Maraganore, Ph.D. | 12/17/14 | 12/17/14 | 0 | 413,751 | 496,501 | | | | 75,000(6) | 96.45 | — |
| | | 12/17/14 | | | | — | 75,000 | 75,000 | | | |
| Barry E. Greene | 12/17/14 | 12/17/14 | 0 | 257,500 | 309,000 | | | | 47,625(6) | 96.45 | — |
| | | 12/17/14 | | | | — | 47,625 | 47,625 | | | |
| Akshay K. Vaishnav, M.D., Ph.D. | 12/17/14 | 12/17/14 | 0 | 231,750 | 278,100 | | | | 35,125(6) | 96.45 | — |
| | | 12/17/14 | | | | — | 35,125 | 35,125 | | | |
| Laurie B. Keating | 09/22/14(2) 12/17/14 | 12/17/14 | 0 | 53,333 | 64,000 | | | | 125,000(2) | 77.40 | 5,035,500 |
| | | 12/17/14 | | | | — | 5,958 | 5,958 | | | |
| Michael P. Mason | 12/17/14 | 12/17/14 | 0 | 77,156 | 92,587 | | | | 8,250(6) | 96.45 | — |
| | | 12/17/14 | | | | — | 8,250 | 8,250 | | | |

- (1) The stock option award to Ms. Keating in September 2014 reported in the 2014 Grants of Plan-Based Awards table was granted pursuant to the Alnylam Pharmaceuticals, Inc. 2009 Stock Incentive Plan, which we refer to as the 2009 Plan. Our 2009 Plan provides that the option exercise price may not be less than 100% of the fair market value of our common stock on the date of grant. None of our NEOs received restricted stock awards or stock appreciation rights in 2014.
- (2) Ms. Keating joined Alnylam as our senior vice president, general counsel and secretary in September 2014 and received a stock option award upon hire. These stock options vest as to 25% of the shares on the first anniversary of the grant date and as to an additional 6.25% of the shares at the end of each successive three-month period thereafter until the fourth anniversary of the grant date.
- (3) On December 17, 2014, our compensation committee approved the grant of Contingent Option Awards to purchase 612,085 shares of our common stock, at an exercise price of \$96.45 per share, to members of our management team, including our NEOs, under the Amended 2009 Plan. Our Amended 2009 Plan provides that the option exercise price may not be less than 100% of the fair market value of our common stock on the date of grant. These Contingent Option Awards were approved subject to and contingent upon approval by our stockholders at the 2015 annual meeting of the Amended 2009 Plan, to, among other things, increase the shares authorized for issuance thereunder. One-half of the Contingent Option Awards granted are time-based stock options and one-half are performance-based stock options. In no event will the Contingent Option Awards be exercised before approval of the Amended 2009 Plan by our stockholders; and in the event that the Amended 2009 Plan is not approved by our stockholders at the 2015 annual meeting, the Contingent Option Awards shall immediately terminate and be of no further force or effect.
- (4) The amounts shown in the threshold, target and maximum columns reflect the minimum, target and maximum amounts payable, respectively, under our 2014 annual cash incentive program, which is described above in the “Compensation Discussion and Analysis” under the heading “2014 Annual Incentive Program.” The actual amounts paid to each NEO can be found above in the Summary Compensation Table under the column entitled Non-Equity Incentive Plan Compensation.

- (5) The amounts shown in the threshold, target and maximum columns reflect the minimum, target and maximum potential future payout range for Contingent Option Awards granted with performance-based vesting milestones. These Contingent Option Awards will vest in three equal installments upon the later of the one year anniversary of the date of grant and the achievement of each of three specific clinical development and regulatory events, subject to and contingent upon approval by our stockholders at the 2015 annual meeting of the Amended 2009 Plan. In no event will the Contingent Option Awards be exercised before approval of the Amended 2009 Plan by our stockholders; and in the event that the Amended 2009 Plan is not approved by our stockholders at the 2015 annual meeting, the Contingent Option Awards shall immediately terminate and be of no further force or effect.
- (6) The time-based portion of the Contingent Option Awards vest as to 25% of the shares on the first anniversary of the grant date and as to an additional 6.25% of the shares at the end of each successive three-month period thereafter until the fourth anniversary of the grant date. In no event will the Contingent Option Awards be exercised before approval of the Amended 2009 Plan by our stockholders; and in the event that the Amended 2009 Plan is not approved by our stockholders at the 2015 annual meeting, the Contingent Option Awards shall immediately terminate and be of no further force or effect.
- (7) The Grant Date Fair Value, computed in accordance with FASB ASC Topic 718, represents the value of stock options granted during the year, excluding the Contingent Option Awards. The amounts reported in the 2014 Grants of Plan-Based Awards table for the stock option awards reflect our accounting expense, excluding the effect of estimated forfeitures, and may not represent the amounts our NEOs will actually realize from the awards. Whether, and to what extent, a NEO realizes value will depend on our actual operating performance, stock price fluctuations and the NEO's continued employment.

The amounts reported exclude the grant date fair value of the Contingent Option Awards. If the stockholders approve the Amended 2009 Plan, the grant date fair value of the Contingent Option Awards would be based on a Black-Scholes valuation model based on the fair market value of the stock on the date of such stockholder approval. No stock-based compensation expense was recorded in 2014 relating to the Contingent Option Awards.

Information Relating to Equity Awards and Holdings

The following table sets forth information concerning outstanding equity awards held by each of our named executive officers on December 31, 2014. This table does not include information relating to the Contingent Option Awards.

Outstanding Equity Awards at Fiscal Year-End for 2014

| Option Awards(1) | | | | | | |
|---------------------------------------|-------------------------|---|---|---|----------------------------|------------------------|
| Name | Grant Date | Number of Securities Underlying Unexercised Options (#) Exercisable | Number of Securities Underlying Unexercised Options (#) Unexercisable | Equity Incentive Plan Awards: | Option Exercise Price (\$) | Option Expiration Date |
| | | | | Number of Securities Underlying Unexercised Options (#) | | |
| John M. Maraganore, Ph.D. | 12/07/2005 | 117,379 | — | | 13.12 | 12/07/2015 |
| | 12/14/2006 | 120,605 | — | | 22.75 | 12/14/2016 |
| | 12/12/2007 | 147,415 | — | | 31.39 | 12/12/2017 |
| | 12/09/2008 | 148,636 | — | | 21.35 | 12/09/2018 |
| | 12/10/2009 | 98,913 | — | | 16.43 | 12/10/2019 |
| | 12/08/2010 | 139,060 | — | | 9.14 | 12/08/2020 |
| | 11/30/2011 | 112,500 | 37,500 | | 7.10 | 11/30/2021 |
| | 12/20/2012 | 75,000 | 75,000 | | 18.66 | 12/20/2022 |
| | 09/11/2013 | 10,000(2) | — | | 55.96 | 09/11/2023 |
| | 12/18/2013 | 37,500 | 112,500 | | 63.00 | 12/18/2023 |
| | 12/18/2013 | 25,000(3) | — | 50,000(3) | 63.00 | 12/18/2023 |
| Barry E. Greene | 12/07/2005 | 74,000 | — | | 13.12 | 12/07/2015 |
| | 12/14/2006 | 60,000 | — | | 22.75 | 12/14/2016 |
| | 12/12/2007 | 80,000 | — | | 31.39 | 12/12/2017 |
| | 12/09/2008 | 90,000 | — | | 21.35 | 12/09/2018 |
| | 12/10/2009 | 65,000 | — | | 16.43 | 12/10/2019 |
| | 12/08/2010 | 100,000 | — | | 9.14 | 12/08/2020 |
| | 11/30/2011 | 75,000 | 25,000 | | 7.10 | 11/30/2021 |
| | 12/20/2012 | 50,000 | 50,000 | | 18.66 | 12/20/2022 |
| | 10/21/2013 | 10,000(2) | — | | 59.31 | 10/21/2023 |
| | 12/18/2013 | 22,500 | 67,500 | | 63.00 | 12/18/2023 |
| | 12/18/2013 | 15,000(3) | — | 30,000(3) | 63.00 | 12/18/2023 |
| Akshay K. Vaishnav, M.D., Ph. D. | 12/14/2006 | 30,000 | — | | 22.75 | 12/14/2016 |
| | 12/12/2007 | 32,750 | — | | 31.39 | 12/12/2017 |
| | 12/09/2008 | 60,350 | — | | 21.35 | 12/09/2018 |
| | 12/10/2009 | 45,000 | — | | 16.43 | 12/10/2019 |
| | 06/09/2011 | — | 12,500 | | 9.30 | 06/09/2021 |
| | 11/30/2011 | — | 10,000 | | 7.10 | 11/30/2021 |
| | 12/20/2012 | 25,000 | 25,000 | | 18.66 | 12/20/2022 |
| | 12/18/2013 | 8,125 | 24,375 | | 63.00 | 12/18/2023 |
| | 12/18/2013 | 10,834(3) | — | 21,666(3) | 63.00 | 12/18/2023 |
| | Laurie B. Keating | 09/22/2014 | — | 125,000 | | 77.40 |
| Michael P. Mason | 02/28/2011 | — | 1,563 | | 10.98 | 02/28/2021 |
| | 11/30/2011 | — | 3,750 | | 7.10 | 11/30/2021 |
| | 12/20/2012 | 625 | 5,000 | | 18.66 | 12/20/2022 |
| | 12/18/2013 | 1,250 | 3,750 | | 63.00 | 12/18/2023 |
| | 12/18/2013 | 1,667(3) | — | 3,333(3) | 63.00 | 12/18/2023 |

(1) All stock option awards were granted with a ten-year term and typically vest as to 25% of the shares on the first anniversary of the grant date and as to an additional 6.25% at the end of each successive three-month period thereafter, unless otherwise noted.

- (2) These options were granted in recognition of ten years of service by the employee and were fully vested on the date of grant.
- (3) These options were granted on December 18, 2013 and will vest in three equal installments upon the achievement of each of three specific clinical development and regulatory events. One-third of these options vested in December 2014 based on the start of a second Phase 3 clinical trial of an “Alnylam 5x15” program.

The following table sets forth information concerning the exercise of stock options and the vesting of restricted stock awards during 2014 for each of our named executive officers.

2014 Option Exercises and Stock Vested

| <u>Name</u> | Option Awards | | Stock Awards(3) | |
|--------------------------------------|--|----------------------------------|---|--------------------------------|
| | Number of Shares Acquired on Exercise(#) | Value Realized on Exercise \$(1) | Number of Shares Acquired on Vesting(#) | Value Realized on Vesting (\$) |
| John M. Maraganore, Ph.D. | 424,247 | 25,275,188(2) | — | — |
| Barry E. Greene | 64,800 | 5,275,081(2) | — | — |
| Akshay K. Vaishnav, M.D., Ph.D. | 64,645 | 4,263,810 | 12,588 | 1,126,500 |
| Laurie B. Keating | — | — | — | — |
| Michael P. Mason | 20,625 | 1,773,205 | 7,847 | 702,228 |

- (1) The value realized on exercise is based on the sales price of the shares less the applicable option exercise price.
- (2) This amount also includes the value realized for exercise and hold transactions. The value realized on exercise and hold transactions is based on the market price of the shares on the date of exercise less the applicable option exercise price.
- (3) In January 2012, our board of directors approved a strategic corporate restructuring. In connection with the restructuring, our compensation committee approved a company-wide retention program under which each employee, other than our chief executive officer and our president and chief operating officer, received a restricted stock award equal to one-third of his or her annual base salary. The restricted stock awards served as retention vehicles as they vested in full on the second anniversary of the grant date only if the individual remained an employee of the company. The value realized on vesting of the retention award is based on the market price of the shares on the date of vesting.

Potential Payments Upon Termination or Change-in-Control

We do not have agreements with any of our executive officers pursuant to which they are eligible for potential payments upon termination or change in control of Alnylam.

Employment Arrangements

Each executive officer has signed a nondisclosure, invention and non-competition agreement providing for the protection of our confidential information and ownership of intellectual property developed by such executive officer and a covenant not to compete with us for a period of eighteen months after termination of employment.

Pursuant to the terms of her letter of employment, we paid Ms. Keating a signing bonus of \$100,000 in October 2014. In the event that Ms. Keating terminates her employment with us, other than for good reason, or is terminated by us for cause, within the first 12 months of her employment with us, she is required to repay the full amount of this signing bonus.

Compensation of Directors

We compensate our non-employee directors for their service as directors. We do not pay directors who are also our employees any additional compensation for their service as a director. Accordingly, Dr. Maraganore does not receive any additional compensation for his service as a director.

Our compensation committee periodically reviews the compensation we pay our non-employee directors. Our compensation committee compares our board compensation to compensation paid to non-employee directors of similarly sized public companies at a similar stage of development in the biotechnology industry. Our compensation committee also considers the responsibilities we ask of our board members along with the amount of time required to perform those responsibilities. In late 2014, our compensation committee engaged Towers Watson, a compensation consultant to the committee, to review director compensation. The compensation committee and our board of directors expects to evaluate the results of this review with Towers Watson during the first half of 2015 and consider whether any changes to director compensation are warranted at this time.

Each non-employee director is entitled to receive a cash fee of \$50,000 per year. In the event any non-employee director is not eligible to accept equity compensation due to the policies of his or her employment, he or she is entitled to receive a cash fee of \$75,000 per year. The chairs of our board and our nominating and corporate governance committee are each entitled to receive an additional \$5,000 per year, the chair of our compensation committee is entitled to receive an additional \$10,000 per year, and the chairs of our audit committee and our science and technology committee are each entitled to receive an additional \$15,000 per year.

Each non-employee director is also entitled to receive upon his or her initial election to our board a stock option award for 30,000 shares of common stock, vesting annually over three years, and an additional annual stock option award to purchase 15,000 shares of common stock, vesting in full on the first anniversary of the date of grant. In addition, the chair of our audit committee is entitled to an additional stock option award to purchase 10,000 shares of common stock per year and the chair of our science and technology committee is entitled to an additional stock option award to purchase 15,000 shares of common stock per year. Our board may, in its discretion, increase or decrease the size of the award made to a director upon election or in connection with the annual stock option award or make other option awards to our directors. The exercise price of these stock options is the fair market value of our common stock on the date of grant. We also reimburse our directors for reasonable travel and other related expenses incurred in connection with their service on our board.

In September 2013, after consultation with Towers Watson, our compensation committee approved a Non-Employee Director Elective Stock Option Program for 2014, pursuant to which non-employee directors could elect to receive stock options in lieu of annual cash compensation in 2014. The Plan was effective as of January 1, 2014 and provided that non-employee directors who elect to receive stock options in lieu of annual cash compensation would receive a stock option award calculated by dividing the amount of cash compensation otherwise due for 2014 by the share value of the one year compounded annual growth rate of our common stock. Such stock option awards vest over one year in equal quarterly installments.

The following table sets forth information concerning the compensation of our non-employee directors in 2014.

Director Compensation

| <u>Name</u> | <u>Fees Earned or Paid in Cash (\$)</u> | <u>Option Awards \$(5)(6)(7)</u> | <u>All Other Compensation (\$)</u> | <u>Total (\$)</u> |
|-------------------------------|---|--------------------------------------|--|-----------------------|
| Dennis A. Ausiello, M.D. | 50,000(4) | 710,649 | — | 760,649 |
| Michael W. Bonney(1) | 2,038 | 1,723,863 | — | 1,725,901 |
| John K. Clarke | 60,000 | 803,774 | — | 863,774 |
| Victor J. Dzau, M.D.(2) | 25,000 | 476,316 | — | 501,316 |
| Marsha H. Fanucci | 50,000 | 673,060 | — | 723,060 |
| Steven M. Paul, M.D. | 60,000(4) | 716,444 | — | 776,444 |
| Paul R. Schimmel, Ph.D. | 50,000(4) | 725,686 | — | 775,686 |
| Amy W. Schulman(3) | 25,000 | 1,182,093 | — | 1,207,093 |
| Phillip A. Sharp, Ph.D. | 65,000(4) | 1,808,657 | 25,000(8) | 1,898,657 |
| Kevin P. Starr | 65,000(4) | 1,363,288 | — | 1,428,288 |

- (1) Mr. Bonney was elected to our board in December 2014.
- (2) Dr. Dzau resigned from our board effective June 30, 2014, as a result of his appointment as President of the Institute of Medicine effective July 1, 2014.
- (3) Ms. Schulman was elected to our board in July 2014.
- (4) These amounts represent the annual cash compensation for each director who elected to receive stock options in lieu of 2014 cash compensation. The grant date fair value, computed in accordance with FASB ASC Topic 718, for the stock options granted to such directors on January 2, 2014 was as follows: Dr. Ausiello, \$105,653; Dr. Paul, \$126,798; Dr. Schimmel, \$105,653; Dr. Sharp, \$137,352; and Mr. Starr, \$137,352.
- (5) The amounts in this column reflect the aggregate grant date fair value for the fiscal year ended December 31, 2014, in accordance with FASB ASC Topic 718, of stock options granted under our equity plans for service on our board and treated for accounting purposes as employee awards, excluding the grant date fair value of stock options received by directors who elected stock options in lieu of 2014 cash compensation. There can be no assurance that these amounts will ever be realized. The assumptions we used to calculate these amounts are included in Note 9 to our audited consolidated financial statements for the fiscal year ended December 31, 2014 included in our Annual Report on Form 10-K, filed with the SEC on February 13, 2015. The amounts also include the incremental fair value of option awards that were modified in connection with an amendment to the 2009 Plan that was approved by our compensation committee in 2014 to provide that upon retirement or resignation, non-employee directors would have three months to exercise any outstanding stock option awards, unless such non-employee director has five or more years of service, in which case such non-employee director will have the lesser of five years or the remainder of the stock option term post-retirement or resignation to exercise such awards. The amount of such incremental fair value with respect to each director was as follows: Dr. Ausiello, \$190,840; Mr. Clarke, \$283,965; Dr. Dzau, \$476,316; Ms. Fanucci, \$153,251; Dr. Paul, \$196,635; Dr. Schimmel, \$205,877; Dr. Sharp, \$769,040; and Mr. Starr, \$496,940.

- (6) At December 31, 2014, our non-employee directors held the following aggregate number of shares under outstanding stock options (representing unexercised option awards – both exercisable and unexercisable), including stock options received by certain directors in lieu of 2014 cash compensation:

| <u>Name</u> | <u>Number of Shares Underlying Outstanding Stock Options for Board Service(#)</u> | <u>Number of Shares Underlying Outstanding Stock Options for Non-Board Service(#)</u> |
|-------------------------------|---|---|
| Dennis A. Ausiello, M.D. | 37,823 | — |
| Michael W. Bonney | 30,000 | — |
| John K. Clarke | 105,000 | — |
| Victor J. Dzau, M.D.(a) | 105,000 | — |
| Marsha H. Fanucci | 90,000 | — |
| Steven M. Paul, M.D. | 93,388 | — |
| Paul R. Schimmel, Ph.D. | 47,823 | — |
| Amy W. Schulman | 30,000 | — |
| Phillip A. Sharp, Ph.D. | 193,670 | 105,000(b) |
| Kevin P. Starr | 153,670 | — |

- (a) Upon Dr. Dzau’s resignation from our board in June 2014, all unvested stock options were cancelled. Dr. Dzau has the lesser of five years and the remainder of the stock option term following his date of resignation to exercise any vested stock options, after which time all such outstanding stock options will be cancelled.
- (b) Dr. Sharp received these stock options between 2005 and 2010 in connection with his service on our scientific advisory board.
- (7) The number of shares underlying stock options granted to our non-employee directors for their service on our board during 2014, excluding stock options granted in lieu of 2014 cash compensation, and the grant date fair value of such stock options are as follows:

| <u>Name</u> | <u>Date of Grant</u> | <u>Number of Shares Underlying Stock Option Grants in 2014(#)</u> | <u>Grant Date Fair Value of Stock Option Grants in 2014 (\$)(c)</u> |
|-------------------------------|--------------------------|---|---|
| Dennis A. Ausiello, M.D. | 06/05/2014 | 15,000 | 519,809 |
| Michael W. Bonney(a) | 12/17/2014 | 30,000 | 1,723,863 |
| John K. Clarke | 06/05/2014 | 15,000 | 519,809 |
| Victor J. Dzau, M.D.(b) | — | — | — |
| Marsha H. Fanucci | 06/05/2014 | 15,000 | 519,809 |
| Steven M. Paul, M.D. | 06/05/2014 | 15,000 | 519,809 |
| Paul R. Schimmel, Ph.D. | 06/05/2014 | 15,000 | 519,809 |
| Amy W. Schulman(a) | 07/01/2014 | 30,000 | 1,182,093 |
| Phillip A. Sharp, Ph.D. | 06/05/2014 | 30,000 | 1,039,617 |
| Kevin P. Starr | 06/05/2014 | 25,000 | 866,348 |

- (a) Mr. Bonney and Ms. Schulman were granted stock option awards upon their election to our board.
- (b) Dr. Dzau resigned from our board in June 2014, and accordingly, he did not receive a stock option award in 2014.
- (c) The Grant Date Fair Value computed in accordance with FASB ASC Topic 718 represents the value of stock options granted during 2014. The weighted-average grant date fair value per option was \$34.65, with the exception of the grant to Mr. Bonney, for which the grant date fair value per option was \$57.46, and the grant to Ms. Schulman, for which the grant date fair value per option was \$39.40. There can be no assurance that the Grant Date Fair Value computed in accordance with FASB ASC Topic 718 will ever be realized.
- (8) This amount reflects compensation paid to Dr. Sharp for service on our scientific advisory board during 2014.

**PROPOSAL 2 —AMENDMENT AND RESTATEMENT OF
ALNYLAM PHARMACEUTICALS, INC.
2009 STOCK INCENTIVE PLAN**

Proposal

Our board of directors believes that stock options and other stock-based incentive awards can play an important role in the success of Alnylam by encouraging and enabling the employees, officers, non-employee directors and other key persons of Alnylam and its subsidiaries upon whose judgment, initiative and efforts we largely depend for the successful conduct of our business to acquire a proprietary interest in Alnylam. Our board of directors anticipates that providing these people with a direct stake in Alnylam will assure a closer identification of the interests of these individuals with those of Alnylam and its stockholders, thereby stimulating their efforts on our behalf and strengthening their desire to remain with Alnylam.

As of January 30, 2015, there were 702,949 shares of common stock available for future grants under the Alnylam Pharmaceuticals, Inc. 2009 Stock Incentive Plan, also referred to herein as the 2009 Plan. On December 17, 2014, our compensation committee recommended, and our board of directors approved, subject to stockholder approval, an amendment and restatement of the 2009 Plan, or the Amended 2009 Plan, to, among other things, increase the aggregate number of shares authorized for issuance under the 2009 Plan by 5,800,000 shares to 11,700,000 shares of common stock.

Adding additional shares to the Amended 2009 Plan is designed to enhance the flexibility to grant stock options and other equity awards to our officers, employees, non-employee directors and other key persons and to ensure that we can continue to grant stock options and other equity awards to eligible recipients at levels determined to be appropriate by our board of directors and/or our compensation committee. In early 2015, we launched our “Alnylam 2020” guidance for the advancement and commercialization of RNAi therapeutics as a whole new class of innovative medicines. Specifically, by the end of 2020, we expect to achieve a company profile with three marketed products and ten RNAi therapeutic clinical programs, including four in late stages of development, across our three Strategic Therapeutic Areas, or STArS: Genetic Medicines; Cardio-Metabolic Disease; and Hepatic Infectious Disease. In order to achieve our goals for 2020, we expect to grow our company significantly over the next several years. In the opinion of our board, our future success depends in large part on our ability to maintain a competitive position in attracting, retaining and motivating key employees with experience and ability. Our board believes that approval of the Amended 2009 Plan and the authorization of the additional shares for issuance thereunder is appropriate and in the best interests of our stockholders given our current expectations on hiring, the highly competitive environment in which we recruit and retain employees, and our historical burn rate. Our management will carefully consider all proposed grants under the Amended 2009 Plan.

A copy of the Amended 2009 Plan is attached as Appendix A to this proxy statement and is incorporated herein by reference.

On December 17, 2014, in connection with our annual compensation review, our compensation committee approved the grant of stock options under the Amended 2009 Plan covering an aggregate of 612,085 shares of our common stock, to members of our management team, including our NEOs. These stock option grants, referred to as the Contingent Option Awards, were approved subject to and contingent upon approval by our stockholders of the Amended 2009 Plan. If the stockholders do not approve the Amended 2009 Plan, the Contingent Option Awards will be automatically cancelled and be of no further force or effect.

At January 30, 2015, excluding the Contingent Option Awards, there were stock options to acquire 8,181,167 shares of common stock outstanding under our equity compensation plans including stock options to acquire 637,906 shares of common stock subject to performance vesting. The number of remaining securities available for future issuance under equity compensation plans of 761,583 consists of 58,634 shares of our common stock available for future issuance under our Amended and Restated 2004 Equity Incentive Plan, or the 2004 Plan, and 702,949 shares of our common stock available for future issuance under our 2009 Plan. This

amount does not reflect the proposed increase in shares reserved for issuance under our Amended 2009 Plan, as set forth in this Proposal 2. These stock options have a weighted-average exercise price of \$38.31 and a weighted-average remaining contractual term of 6.60 years. In addition, at January 30, 2015, there were 30,149 unvested full-value awards with time-based vesting outstanding under our equity compensation plans. Other than the foregoing, no awards under our equity compensation plans were outstanding as of January 30, 2015.

Summary of Material Features

The material features of the Amended 2009 Plan are:

- The maximum number of shares of common stock available for awards under the Amended 2009 Plan is increased by 5,800,000 shares from 5,900,000 shares to 11,700,000 shares;
- Grants of “full-value” awards are deemed for purposes of determining the number of shares available for future grants under the Amended 2009 Plan as an award for 1.5 shares for each share of common stock subject to the award. Grants of stock options or stock appreciation rights are deemed to be an award of one share for each share of common stock subject to the award;
- Shares tendered or held back for taxes will not be added back to the reserved pool under the Amended 2009 Plan. Upon the exercise of a stock appreciation right that is settled in shares of common stock, the full number of shares underlying the award will be charged to the reserved pool. Additionally, shares we reacquire on the open market or otherwise using cash proceeds of option exercises will not be added to the reserved pool;
- The maximum number of shares with respect to which awards may be granted to non-employee directors is 10% of the maximum number of authorized shares under the Amended 2009 Plan;
- Stock options and stock appreciation rights will not be repriced in any manner without stockholder approval;
- The award of stock options (both incentive and non-qualified options), stock appreciation rights, restricted stock, restricted stock units and other stock-based awards is permitted;
- Minimum vesting periods (both time-based and performance-based) are required for stock options, stock appreciation rights, restricted stock, restricted stock units and other stock-based awards under the Amended 2009 Plan; and
- Any material amendment to the Amended 2009 Plan is subject to approval by our stockholders.

Based solely on the closing price of our common stock as reported by the NASDAQ Global Select Market on January 30, 2015 and the maximum number of shares that would have been available for awards as of such date taking into account the proposed increase described herein, the maximum aggregate market value of the common stock that could potentially be issued under the Amended 2009 Plan is \$610,171,705. The shares we issue under the Amended 2009 Plan will be authorized but unissued shares or treasury shares. The shares of common stock underlying any awards that are forfeited, canceled or otherwise terminated, other than by exercise, under the Amended 2009 Plan are added back to the shares of common stock available for issuance under the Amended 2009 Plan. Shares tendered or held back upon exercise of a stock option or settlement of an award under the Amended 2009 Plan to cover the exercise price or tax withholding, shares subject to a stock appreciation right that are not issued in connection with the stock settlement of the stock appreciation right upon exercise thereof and shares repurchased by us on the open market, are not added back to the shares of common stock available for issuance under the Amended 2009 Plan.

Qualified Performance-Based Compensation under Code Section 162(m)

To ensure that certain awards granted under the Amended 2009 Plan to “Covered Employees” (as defined in the Code) qualify as “performance-based compensation” under Section 162(m) of the Code, the Amended 2009 Plan provides that the compensation committee may require that the vesting of such awards be conditioned on the satisfaction of performance criteria that may include any or all of the following: (1) net income; (2) earnings before or after discontinued operations, interest, taxes, depreciation and/or amortization; (3) operating profit before or after discontinued operations and/or taxes; (4) sales; (5) sales growth; (6) earnings growth; (7) cash flow or cash position; (8) gross margins; (9) stock price; (10) market share; (11) return on sales, assets, equity or investment; (12) improvement of financial ratings; (13) achievement of balance sheet or income statement objectives; (14) total shareholder return; (15) market penetration goals; (16) unit volume; (17) geographic business expansion goals; (18) drug discovery or other scientific goals; (19) pre-clinical or clinical goals; (20) organizational goals; (21) regulatory approvals; (22) cost targets; and (23) goals relating to acquisitions, divestitures and/or strategic partnerships. Subject to adjustments for stock splits and similar events, the maximum number of shares of common stock with respect to which awards may be granted to any participant under the Amended 2009 Plan will not exceed 500,000 shares of common stock in any calendar year, except the calendar year in which a participant is hired, in which case the maximum number of shares will not exceed 1,000,000 shares. The maximum number of shares with respect to which awards may be granted to non-employee directors is 10% of the total number of shares reserved for issuance under the Amended 2009 Plan.

Rationale for Share Increase

The Amended 2009 Plan is critical to our ongoing effort to build stockholder value. Equity incentive awards are an important component of our executive and non-executive employees’ compensation. Our compensation committee and our board of directors believe that we must continue to offer a competitive equity compensation program in order to attract, retain and motivate the talented and qualified employees necessary for our continued growth and success. Adding additional shares to the Amended 2009 Plan is designed to enhance the flexibility to grant stock options and other equity awards to our officers, employees, non-employee directors and other key persons and to ensure that we can continue to grant stock options and other equity awards to eligible recipients at levels determined to be appropriate by our board of directors and/or our compensation committee. In early 2015, we launched our “Alnylam 2020” guidance for the advancement and commercialization of RNAi therapeutics as a whole new class of innovative medicines. Specifically, by the end of 2020, we expect to achieve a company profile with three marketed products and ten RNAi therapeutic clinical programs, including four in late stages of development, across our three STArS: Genetic Medicines; Cardio-Metabolic Disease; and Hepatic Infectious Disease. In order to achieve our goals for 2020, we expect to grow our company significantly over the next several years. In the opinion of our board, our future success depends in large part on our ability to maintain a competitive position in attracting, retaining and motivating key employees with experience and ability. Our board believes that approval of the Amended 2009 Plan and the authorization of the additional shares for issuance thereunder is appropriate and in the best interests of our stockholders given our current expectations on hiring, the highly competitive environment in which we recruit and retain employees and our historical burn rate. Our management will carefully consider all proposed grants under the Amended 2009 Plan.

We manage our long-term stockholder dilution by limiting the number of equity incentive awards granted annually. Our compensation committee carefully reviews our annual net burn rate and total dilution in order to maximize stockholder value by granting only the number of equity incentive awards that it believes are necessary and appropriate to attract, reward and retain our employees. Our compensation philosophy reflects broad-based eligibility for equity incentive awards for all of our employees. By doing so, we link the interests of our employees with those of our stockholders and motivate our employees to act as owners of the business.

Burn rate

The following table sets forth information regarding historical awards granted and earned for the 2012 through 2014 period, excluding the Contingent Option Awards, and the corresponding burn rate, which is defined as the number of shares subject to equity-based awards granted in a year divided by the weighted-average number of shares of common stock outstanding for that year, for each of the last three fiscal years:

| <u>Share Element</u> | <u>2014</u> | <u>2013</u> | <u>2012</u> |
|---|------------------|------------------|------------------|
| Time-Based Stock Options Granted | 1,351,764 | 1,380,677 | 1,233,086 |
| Performance-Based Stock Options Granted(1) | 193,863 | 468,427 | — |
| Time-Based Full-Value Awards Granted | 29,166 | 1,966 | 513,082 |
| Adjusted Full-Value Awards Granted(2) | 43,749 | 2,949 | 769,623 |
| Total Awards Granted(3) | 1,589,376 | 1,852,053 | 2,002,709 |
| Weighted-average common shares outstanding during the fiscal year . . . | 74,277,658 | 61,551,496 | 50,286,419 |
| Annual Burn Rate | 2.14% | 3.01% | 3.98% |
| Three Year Average Burn Rate(4) | 3.04% | | |

- (1) Each annual grant of performance-based stock options vests in three equal installments upon the achievement of each of three specific clinical development and regulatory events. Based on the start of a second Phase 3 clinical trial of an “Alnylam 5x15” program, 154,351 of the performance-based stock options granted in 2013 vested in December 2014. No performance-based stock options had vested prior to fiscal year 2014.
- (2) In accordance with corporate governance policy updates published by Institutional Shareholder Services, or ISS, Adjusted Full-Value Awards Granted represents Time-Based Full-Value Awards Granted, subject to a multiplier based on our recent historic stock price volatility. Based on our recent historical stock price volatility and ISS metrics we have utilized a full-value award multiplier of 1.5 for purposes of calculating the 2012-2014 average burn rate.
- (3) Total Awards Granted represents the sum of Time-Based Stock Options Granted, Performance-Based Stock Options Granted and Adjusted Full-Value Awards Granted.
- (4) As illustrated in the table above, our three-year average burn rate for the 2012-2014 period was 3.04%, which is below the ISS industry category burn rate threshold of 5.91%.

If our request to increase the share reserve of the Amended 2009 Plan by an additional 5,800,000 shares is approved by stockholders, we will have approximately 6,502,949 shares available for grant after the 2015 annual meeting, which is based on 702,949 shares available for grant under the 2009 Plan at January 30, 2015 and the 5,800,000 shares subject to this proposal. Our compensation committee determined the size of the requested share increase based on projected equity awards to anticipated new hires, projected annual equity awards to existing employees and an assessment of the magnitude of increase that our institutional investors and the firms that advise them would likely find acceptable. We anticipate that if our request to increase the share reserve is approved by our stockholders, it will be sufficient to provide equity incentives to attract, retain and motivate employees through our 2017 annual meeting of stockholders.

Summary of the Amended 2009 Plan

The following description of certain features of the Amended 2009 Plan is intended to be a summary only. The summary is qualified in its entirety by the full text of the Amended 2009 Plan, which is attached hereto as Appendix A.

Plan Administration. The Amended 2009 Plan is administered by our compensation committee. The compensation committee has full power to select, from among the individuals eligible for awards, the individuals to whom awards will be granted, to make any combination of awards to participants, and to determine the specific terms and conditions of each award, subject to the provisions of the Amended 2009 Plan. The compensation committee may delegate to one or more officers of the company the authority to grant equity awards to employees

who are not “executive officers” (as defined by Rule 3b-7 under the Exchange Act) and who are not “officers” (as defined by Rule 16a-1 under the Exchange Act), subject to certain limitations and guidelines.

Eligibility. Persons eligible to participate in the Amended 2009 Plan are employees, officers, directors, consultants and advisors of Alnylam as selected from time to time by the compensation committee in its discretion. As of January 30, 2015, 272 individuals are eligible to participate in the Amended 2009 Plan, which includes five executive officers, 251 employees who are not executive officers, seven members of our scientific advisory board and nine non-employee directors.

Plan Limits. The maximum award of shares with respect to which awards may be granted to any one participant will not exceed 500,000 shares of common stock (subject to adjustment for stock splits and similar events) for any calendar year period, except in the calendar year in which a participant is hired, in which case the maximum number of shares will not exceed 1,000,000 shares of common stock per calendar year.

Effect of Awards. For purposes of determining the number of shares of common stock available for issuance under the Amended 2009 Plan, the grant of any “full-value” award, such as a restricted stock, restricted stock unit or other stock-based award will be counted as 1.5 shares for each share of common stock actually subject to the award. The grant of any stock option or stock appreciation right will be counted for this purpose as one share from each share of common stock actually subject to the award.

Stock Options. The Amended 2009 Plan permits the granting of (1) options to purchase common stock intended to qualify as incentive stock options under Section 422 of the Code and (2) options that do not so qualify. Options granted under the Amended 2009 Plan will be non-qualified options if they fail to qualify as incentive options or exceed the annual limit on incentive stock options. Incentive stock options may only be granted to employees of Alnylam and its subsidiaries. Non-qualified options may be granted to any persons eligible to receive incentive options and to non-employee directors, consultants and advisors. The option exercise price of each option will be determined by the compensation committee but may not be less than 100% of the fair market value of the common stock on the date of grant. Fair market value for this purpose will be the closing price of the shares of common stock on the NASDAQ Global Select Market on the grant date. The exercise price of an option may not be reduced after the date of the option grant, other than to appropriately reflect changes in our capital structure.

The term of each option will be fixed by the compensation committee and may not exceed ten years from the date of grant. The compensation committee will determine at what time or times each option may be exercised. Options may be made exercisable in installments and the exercisability of options may be accelerated by the compensation committee.

Options granted to employees shall not become fully exercisable prior to the first anniversary of the date of grant. The minimum vesting restriction does not apply to options granted to employees for up to an aggregate of 10% of the maximum number of shares authorized for issuance under the Amended 2009 Plan. In addition, the board of directors may impose a faster vesting schedule in the event of death, disability or retirement of the participant or a merger, consolidation, sale, reorganization, recapitalization or change in control of Alnylam.

Upon the exercise of an option, the option exercise price must be paid in full either in cash, by check, by delivery of an irrevocable and unconditional undertaking by a creditworthy broker to deliver promptly to Alnylam sufficient funds to pay the exercise price and any required tax withholding or by delivery by the participant of a copy of irrevocable and unconditional instructions to a creditworthy broker to deliver promptly to Alnylam cash or check sufficient to pay the exercise price and any required tax withholding. To the extent provided in the applicable option agreement or approved by the board or directors and subject to applicable law, (i) by delivery (either by actual delivery or attestation) of shares of common stock owned by the participant valued at the fair market value, subject to certain restrictions, (ii) by “net exercise” arrangement, as a result of which the participant would receive the number of shares of common stock underlying the option reduced by the number of shares equal to the aggregate exercise price of the option divided by the fair market value on the date of exercise or (iii) by payment of such other lawful consideration as the board of directors may determine.

To qualify as incentive options, options must meet additional federal tax requirements, including a \$100,000 limit on the value of shares subject to incentive options that first become exercisable by a participant in any one calendar year.

Stock Appreciation Rights. The compensation committee may award stock appreciation rights subject to such conditions and restrictions as the compensation committee may determine. Stock appreciation rights entitle the recipient to shares of common stock equal to the value of the appreciation in the stock price over the exercise price. The exercise price may not be less than the fair market value of the common stock on the date of grant. The maximum term of a stock appreciation right is ten years.

Stock appreciation rights granted to employees shall not become fully vested and exercisable prior to the first anniversary of the date of grant. The minimum vesting restriction described above does not apply to stock appreciation rights granted to employees for up to an aggregate of 10% of the maximum number of shares authorized for issuance under the Amended 2009 Plan. In addition, the board of directors may impose a faster vesting schedule in the event of death, disability or retirement of the participant or a merger, consolidation, sale, reorganization, recapitalization or change in control of Alnylam.

Restricted Stock and Restricted Stock Units. The compensation committee may award shares of common stock and restricted stock units to participants subject to such conditions and restrictions as the compensation committee may determine. These conditions and restrictions may include the achievement of certain performance goals (as summarized above) and/or continued employment with us through a specified restricted period. Restricted stock units are ultimately payable in the form of shares of common stock and, during the vesting period, restricted stock unit awards may be credited with dividend equivalent rights (but dividend equivalents payable with respect to restricted stock units with vesting tied to the attainment of performance criteria shall not be paid unless and until such performance conditions are attained). Restricted stock and restricted stock units that vest solely based on the passage of time shall be zero percent vested prior to the first anniversary of the date of grant (or, in the case of awards granted to non-employee directors, the date of the first annual meeting held after the date of grant, if earlier), no more than one-third vested prior to the second anniversary of the date of grant (or, in the case of awards granted to non-employee directors, the date of the second annual meeting held after the date of grant, if earlier) and no more than two-thirds vested prior to the third anniversary of the date of grant (or, in the case of awards granted to non-employee directors, the date of the third annual meeting held after the date of grant, if earlier). Restricted stock and restricted stock units that do not vest solely based on the passage of time shall not vest prior to the first anniversary of the date of grant (or, in the case of awards granted to non-employee directors, the date of the first annual meeting held after the date of grant, if earlier). However, these minimum vesting restrictions do not apply to performance awards, restricted stock or restricted stock units covering, in the aggregate, up to 10% of the maximum number of authorized shares under the Amended 2009 Plan. Further, the board of directors may waive its right to repurchase shares of common stock (or waive the forfeiture thereof) or remove or modify any part or all of the restrictions applicable to restricted stock and/or restricted stock units in the event of the death, disability or retirement of the participant or a merger, consolidation, sale, reorganization, recapitalization or change in control of Alnylam.

Other Stock-Based Awards. The compensation committee may award shares of common stock or other awards that are valued, in whole or in part, by reference to, or are otherwise based on, shares of our common stock or other property. Other stock-based awards that vest solely based on the passage of time shall be zero percent vested prior to the first anniversary of the date of grant (or, in the case of awards granted to non-employee directors, the date of the first annual meeting held after the date of grant, if earlier), no more than one-third vested prior to the second anniversary of the date of grant (or, in the case of awards granted to non-employee directors, the date of the second annual meeting held after the date of grant, if earlier) and no more than two-thirds vested prior to the third anniversary of the date of grant (or, in the case of awards granted to non-employee directors, the date of the third annual meeting held after the date of grant, if earlier). Other stock-based awards that do not vest solely based on the passage of time shall not vest prior to the first anniversary of the date of grant (or, in the case of awards granted to non-employee directors, the date of the first annual meeting held after the date of grant, if earlier). However, these minimum vesting restrictions do not apply to performance awards or other stock-based awards covering, in the aggregate, up to 10% of the maximum number of authorized shares under the Amended 2009 Plan.

Change of Control Provisions. The Amended 2009 Plan provides that, in connection with a “reorganization event,” as defined in the Amended 2009 Plan, the board of directors may take any one or more of the following actions as to all or any outstanding awards other than restricted stock and restricted stock units: (i) provide that awards shall be assumed, or substantially equivalent awards shall be substituted, by the acquiring or succeeding corporation (or affiliate thereof), (ii) upon written notice to a participant, provide that the participant’s unexercised awards will terminate immediately prior to the consummation of such reorganization event unless exercised by the participant within a specified period of time following the date of such notice, (iii) provide that outstanding awards shall become exercisable, realizable, or deliverable, or restrictions applicable to an award shall lapse, in whole or in part, prior to the reorganization event, (iv) in the event of a reorganization event in which holders of common stock will receive, upon the consummation thereof, a cash payment for each share surrendered in the reorganization event, make or provide for a cash payment to a participant, in exchange for the cancellation of such awards, equal to the excess, if any, of (a) the price paid to the holders of common stock in the reorganization event times the number of shares subject to the participant’s awards over (b) the aggregate exercise price of all such outstanding awards and any applicable tax withholdings, (v) provide that, in connection with a liquidation or dissolution of Alynlam, awards shall convert into the right to receive liquidation proceeds (if applicable, net of the exercise price thereof and any applicable tax withholdings), and (vi) any combination of the foregoing.

Upon the occurrence of a reorganization event other than a liquidation or dissolution, our repurchase and other rights with respect to outstanding restricted stock and restricted stock units shall inure to the benefit of the successor entity and shall, unless the board of directors determines otherwise, apply to the cash, securities or other property into which the common stock was converted or exchanged for pursuant to such reorganization event in the same manner and to the same extent they applied to the common stock subject to the restricted stock or restricted stock unit. However, the board of directors may provide for termination or deemed satisfaction of such repurchase or other rights under the instrument evidencing the restricted stock or restricted stock units or other agreement between the participant and us. Upon the occurrence of a reorganization right involving the liquidation or dissolution of Alynlam, except to the extent specifically provided to the contrary in the instrument evidencing the award or any other agreement between the participant and us, all restrictions and conditions on all restricted stock and restricted stock units then outstanding shall automatically be deemed terminated or satisfied.

Adjustments for Stock Dividends, Stock Splits, Etc. The Amended 2009 Plan requires the compensation committee to make appropriate adjustments to the number of shares of common stock that are subject to the Amended 2009 Plan, subject to certain limits in the Amended 2009 Plan, and to any outstanding awards to reflect stock dividends, stock splits, recapitalization and similar events.

Tax Withholding. Participants in the Amended 2009 Plan are responsible for the payment of any federal, state or local taxes that we are required by law to withhold upon the exercise of options or stock appreciation rights or vesting of other awards. Subject to approval by the compensation committee, participants may elect to have the minimum tax withholding obligations satisfied by delivery of shares of common stock.

Clawback Policy. All awards made under the Amended 2009 Plan will be subject to our clawback policy.

Amendments and Termination. Our board may at any time amend or discontinue the Amended 2009 Plan. However, no such action may materially adversely affect any rights under any outstanding award without the holder’s consent. To the extent required under NASDAQ rules, any amendments that materially change the terms of the Amended 2009 Plan will be subject to approval by our stockholders. Amendments shall also be subject to approval by our stockholders if and to the extent determined to be required by the Code to preserve the qualified status of incentive options or to ensure that compensation earned under the Amended 2009 Plan qualifies as performance-based compensation under Section 162(m) of the Code.

Effective Date of the Amended 2009 Plan. Our board initially adopted the 2009 Plan on April 16, 2009, and the 2009 Plan became effective on the date it was approved by stockholders in June 2009. The board adopted the Amended 2009 Plan on December 17, 2014 and it will be effective upon approval by our stockholders. Awards of incentive options may be granted under the Amended 2009 Plan until December 17, 2024. No other awards

may be granted under the Amended 2009 Plan after the date that is ten years from the date of stockholder approval. If the Amended 2009 Plan is not approved by our stockholders, the Contingent Option Awards will be null and void and the existing 2009 Plan will continue in effect until it expires, and awards may be granted thereunder, in accordance with its terms.

Plan Benefits

Because the grant of awards under the Amended 2009 Plan is within the discretion of our compensation committee, we cannot determine the dollar value or number of shares of common stock that will in the future be received by or allocated to any participant in the Amended 2009 Plan. However, on December 17, 2014, the compensation committee granted the Contingent Option Awards to members of our management team, including our NEOs. Assuming approval of the Amended 2009 Plan, 50% of the Contingent Option Awards will vest over-time, with 25% of the shares vesting on December 17, 2015 and an additional 6.25% of the shares vesting at the end of each successive three-month period thereafter until December 17, 2018; and 50% of the grant will vest in thirds upon the achievement of certain pre-determined performance milestones that are expected to occur in a staggered fashion over a three to four year period. Specifically, one-third of the shares subject to the performance-based portion will vest upon the later of the one year anniversary of the date of grant and the achievement of each of the following three specific clinical development and regulatory events, as approved by our compensation committee:

- completion of patient enrollment in our Phase 3 APOLLO study;
- the start of a third Phase 3 clinical trial; and
- receipt of the first regulatory approval for an Alnylam product.

The following table provides information concerning these Contingent Option Awards made to each of the following persons and groups: each named executive officer; all current executive officers, as a group; all current directors who are not executive officers, as a group; and all current employees who are not executive officers, as a group. The Contingent Option Awards will be automatically cancelled and will be of no further force and effect in the event that stockholder approval of the Amended 2009 Plan is not obtained.

| <u>Name and Position</u> | <u>Contingent Option Awards</u> | |
|--|--------------------------------------|---------------------------------------|
| | <u>Exercise Price</u> <u>(\$)</u> | <u>Number of Awards</u> <u>(#)</u> |
| John M. Maraganore, Ph.D. <i>Chief Executive Officer</i> | 96.45 | 150,000 |
| Barry E. Greene <i>President and Chief Operating Officer</i> | 96.45 | 95,250 |
| Akshay K. Vaishnav, M.D., Ph.D. <i>Executive Vice President, Research and Development and Chief Medical Officer</i> | 96.45 | 70,250 |
| Laurie B. Keating <i>Senior Vice President, General Counsel and Secretary</i> | 96.45 | 11,917 |
| Michael P. Mason <i>Vice President of Finance and Treasurer</i> | 96.45 | 16,500 |
| All current executive officers, as a group | 96.45 | 343,917 |
| All current directors who are not executive officers, as a group | — | — |
| All current employees who are not executive officers, as a group | 96.45 | 268,168 |

Tax Aspects under the Code

The following is a summary of the principal U.S. federal income tax consequences of certain transactions under the Amended 2009 Plan. It does not describe all federal tax consequences under the Amended 2009 Plan, nor does it describe state or local tax consequences.

Incentive Options. No taxable income is generally realized by the optionee upon the grant or exercise of an incentive option. If shares of common stock issued to an optionee pursuant to the exercise of an incentive option are sold or transferred after two years from the date of grant and after one year from the date of exercise, then, (i) upon sale of such shares, any amount realized in excess of the option price (the amount paid for the shares) will be taxed to the optionee as a long-term capital gain, and any loss sustained will be a long-term capital loss, and (ii) we will not be entitled to any deduction for federal income tax purposes. The exercise of an incentive option will give rise to an item of tax preference that may result in alternative minimum tax liability for the optionee.

If shares of common stock acquired upon the exercise of an incentive option are disposed of prior to the expiration of the two-year and one-year holding periods described above, which is referred to as a “disqualifying disposition,” generally (i) the optionee will realize ordinary income in the year of disposition in an amount equal to the excess (if any) of the fair market value of the shares of common stock at exercise (or, if less, the amount realized on a sale of such shares of common stock) over the exercise price thereof, and (ii) we will be entitled to deduct such amount. Special rules will apply where all or a portion of the exercise price of the incentive option is paid by tendering shares of common stock.

If an incentive option is exercised at a time when it no longer qualifies for the tax treatment described above, the option is treated as a non-qualified option. Generally, an incentive option will not be eligible for the tax treatment described above if it is exercised more than three months following termination of employment (or one year in the case of termination of employment by reason of disability). In the case of termination of employment by reason of death, the three-month rule does not apply.

Non-Qualified Options. No income is realized by the optionee at the time the option is granted. Generally (i) at exercise, ordinary income is realized by the optionee in an amount equal to the difference between the exercise price and the fair market value of the shares of common stock on the date of exercise, and we receive a tax deduction for the same amount, and (ii) at disposition, appreciation or depreciation after the date of exercise is treated as either short-term or long-term capital gain or loss depending on how long the shares of common stock have been held. Special rules will apply where all or a portion of the exercise price of the non-qualified option is paid by tendering shares of common stock. Upon exercise, the optionee will also be subject to Social Security taxes on the excess of the fair market value over the exercise price of the option.

Other Awards. We will generally be entitled to a tax deduction in connection with an award under the Amended 2009 Plan in an amount equal to the ordinary income realized by the participant at the time the participant recognizes such income. Participants typically are subject to income tax and recognize that tax at the time that an award is exercised, vests or becomes non-forfeitable, unless the award provides for a further deferral.

Parachute Payments. The vesting of any portion of an option or other award that is accelerated due to the occurrence of a change in control (such as a reorganization event) may cause a portion of the payments with respect to such accelerated awards to be treated as “parachute payments” as defined in the Code. Any such parachute payments may be non-deductible by us, in whole or in part, and may subject the recipient to a non-deductible 20% federal excise tax on all or a portion of such payment (in addition to other taxes ordinarily payable).

Limitation on Deductions. Under Section 162(m) of the Code, our deduction for certain awards under the Amended 2009 Plan may be limited to the extent that the chief executive officer or other executive officer whose compensation is required to be reported in the summary compensation table (other than the principal financial officer) receives compensation in excess of \$1 million a year (other than performance-based compensation that otherwise meets the requirements of Section 162(m) of the Code). The Amended 2009 Plan is structured to allow certain awards to qualify as performance-based compensation.

Vote Required

A majority of the votes cast is required for the approval of the Amended 2009 Plan.

Securities Authorized for Issuance Under Equity Compensation Plans

The following table provides information as of December 31, 2014 about the securities authorized for issuance under our equity compensation plans, consisting of our 2002 Employee, Director and Consultant Stock Option Plan, or the 2002 Plan, our 2003 Employee, Director and Consultant Stock Option Plan, or the 2003 Plan, our 2004 Plan, our 2009 Plan and our 2004 Employee Stock Purchase Plan, as amended, or the ESPP Plan. All of our equity compensation plans were adopted with the approval of our stockholders.

Equity Compensation Plan Information

| | Number of Securities to Be Issued Upon Exercise of Outstanding Options and Rights(#)(1) | Weighted-Average Exercise Price of Outstanding Options and Rights\$(2) | Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans(#)(3)(4) |
|--|---|--|---|
| Equity compensation plans approved by stockholders | 8,197,699 | 36.57 | 1,148,614 |
| Equity compensation plans not approved by stockholders | — | — | — |
| Total | 8,197,699 | 36.57 | 1,148,614 |

- (1) Includes 8,168,533 shares of common stock issuable upon the exercise of outstanding options and 29,166 shares of common stock issuable upon the vesting of shares of restricted stock units. Does not include 983 shares of unvested restricted stock as they have been reflected in our total shares outstanding. Also excludes the Contingent Option Awards.
- (2) Since restricted stock units do not have any exercise price, such units are not included in the weighted-average exercise price calculation.
- (3) Consists of 58,634 shares of our common stock available for future issuance under our 2004 Plan, 882,949 shares of our common stock available for future issuance under our 2009 Plan and 207,031 shares of our common stock available for future issuance under our ESPP Plan. No shares of our common stock were available for issuance under our 2002 Plan or our 2003 Plan as of December 31, 2014.
- (4) At January 30, 2015, options to purchase 8,181,167 shares of common stock were outstanding under all equity plans. The number of remaining securities available for future issuance under equity compensation plans of 761,583 consists of 58,634 shares of our common stock available for future issuance under our 2004 Plan and 702,949 shares of our common stock available for future issuance under our 2009 Plan. No shares of our common stock were available for issuance under our 2002 Plan or our 2003 Plan as of January 30, 2015. This amount does not reflect the proposed increase in shares reserved for issuance under our Amended 2009 Plan, as set forth in Proposal 2. The weighted-average remaining contractual life for options outstanding at January 30, 2015 was 6.60 years and the weighted-average exercise price for such options was \$38.31. In addition, at January 30, 2015, there were 30,149 shares of restricted stock and restricted stock units outstanding under our 2009 Plan.

Board Recommendation

Our board of directors believes that our future success depends, in large part, upon our ability to maintain a competitive position in attracting, retaining and motivating key personnel. Accordingly, our board believes approval of the Alnylam Pharmaceuticals, Inc. Amended and Restated 2009 Equity Incentive Plan is in the best interests of Alnylam and our stockholders and unanimously recommends that you vote “FOR” this proposal.

PROPOSAL 3 — ADVISORY VOTE ON EXECUTIVE COMPENSATION

We are providing our stockholders with 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 Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, which added Section 14A to the Exchange Act.

We encourage stockholders to read closely the "Executive Compensation" section of this proxy statement beginning with the "Compensation Discussion and Analysis" on page 26, which describes in detail our executive compensation programs and the decisions made by our compensation committee and our board with respect to the fiscal year ended December 31, 2014.

As we describe in the "Compensation Discussion and Analysis," we maintain straight-forward executive compensation programs that consist almost entirely of base salary, an annual cash incentive bonus and annual equity awards. These elements of compensation have been selected by our compensation committee because the committee believes that they effectively achieve the fundamental goals of our compensation program, which are to attract, motivate and retain qualified and talented executives, who are critical to our success, motivating them to achieve our business goals and rewarding them for superior short- and long-term performance. The goal of our compensation committee is to ensure that our compensation programs are aligned with the interests of our stockholders and our business goals in order to attain our ultimate objective of increasing stockholder value. We believe that, consistent with these goals, the total compensation paid to each of our named executive officers is fair, reasonable and competitive. Further, we believe our programs do not encourage excessive risk-taking by management.

With very limited exceptions, we do not provide any compensation or benefit plans to executive officers that are not also available to other employees. We differentiate among executive officers primarily based on size of annual cash incentive awards and annual equity awards and, to a lesser extent, base salary. Annual compensation decisions for executive officers are made by our compensation committee based on the achievement of specified corporate performance goals as described under "Compensation Discussion and Analysis."

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

RESOLVED, that the compensation paid to the named executive officers of Alnylam Pharmaceuticals, Inc., as disclosed pursuant to the compensation disclosure rules of the SEC, including the compensation discussion and analysis, the compensation tables and any related material disclosed in the proxy statement of Alnylam Pharmaceuticals, Inc., is hereby approved.

As an advisory vote, this proposal is not binding. The outcome of this advisory vote will not overrule any decision by us 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.

Board Recommendation

Our board of directors unanimously recommends that you vote to approve the compensation of our named executive officers by voting "FOR" Proposal 3.

PROPOSAL 4 — RATIFICATION OF APPOINTMENT OF INDEPENDENT AUDITORS

Our board has appointed the firm of PricewaterhouseCoopers LLP, an independent registered public accounting firm, as independent auditors for the fiscal year ending December 31, 2015. Although stockholder approval of our board's appointment of PricewaterhouseCoopers LLP is not required by law, our board believes that it is advisable to give stockholders an opportunity to ratify this appointment. If this proposal is not approved at the annual meeting, our board will reconsider its appointment of PricewaterhouseCoopers LLP. Representatives of PricewaterhouseCoopers LLP are expected to be present at the annual meeting and will have the opportunity to make a statement, if they desire to do so, and will be available to respond to appropriate questions from our stockholders.

Board Recommendation

Our board of directors unanimously recommends a vote "FOR" the ratification of the appointment of PricewaterhouseCoopers LLP as our independent auditors for the fiscal year ending December 31, 2015.

OTHER MATTERS

Our board of directors does not know of any other matters which may come before the meeting. However, if any other matters are properly presented to the meeting, it is the intention of the persons named in the accompanying proxy card to vote, or otherwise act, in accordance with their judgment on those matters.

STOCKHOLDER PROPOSALS

In order to be included in the proxy materials for the 2016 annual meeting of stockholders, stockholders' proposals must be received by us at our principal executive offices, 300 Third Street, Cambridge, Massachusetts 02142 no later than December 31, 2015. We suggest that proponents submit their proposals by certified mail, return receipt requested, addressed to our Corporate Secretary.

In addition, our bylaws require that we be given advance notice of stockholder nominations for election to our board of directors and of other matters which stockholders wish to present for action at an annual meeting of stockholders, other than matters included in our proxy statement. The required notice must be in writing and received by our corporate secretary at our principal offices not later than February 1, 2016 (90 days prior to the first anniversary of our 2015 annual meeting of stockholders) and not before January 2, 2016 (120 days prior to the first anniversary of our 2015 annual meeting of stockholders). However, if the 2016 annual meeting of stockholders is advanced by more than 20 days, or delayed by more than 60 days, from the first anniversary of the 2015 annual meeting of stockholders, notice must be received not earlier than the 120th day prior to such annual meeting and not later than the close of business on the later of (1) the 90th day prior to such annual meeting and (2) the 10th day following the date on which notice of the date of such annual meeting was mailed or public disclosure of the date of such annual meeting was made, whichever occurs first. Our bylaws also specify requirements relating to the content of the notice which stockholders must provide, including a stockholder nomination for election to our board of directors, to be properly presented at the 2016 annual meeting of stockholders.

OUR BOARD OF DIRECTORS ENCOURAGES STOCKHOLDERS TO ATTEND THE ANNUAL MEETING. WHETHER OR NOT YOU PLAN TO ATTEND IN PERSON, YOU ARE URGED TO VOTE BY PROXY OVER THE INTERNET, BY TELEPHONE OR BY MAIL AS DESCRIBED IN THE ENCLOSED PROXY CARD. A PROMPT RESPONSE WILL GREATLY FACILITATE ARRANGEMENTS FOR THE ANNUAL MEETING AND YOUR COOPERATION WILL BE APPRECIATED. STOCKHOLDERS WHO ATTEND THE ANNUAL MEETING MAY VOTE THEIR STOCK PERSONALLY EVEN THOUGH THEY HAVE SUBMITTED A PROXY PREVIOUSLY.

ALNYLAM PHARMACEUTICALS, INC.

AMENDED AND RESTATED
2009 STOCK INCENTIVE PLAN1. Purpose

The purpose of this Amended and Restated 2009 Stock Incentive Plan (the “*Plan*” or the “*Amended and Restated Plan*”) of Alnylam Pharmaceuticals, Inc., a Delaware corporation (the “*Company*”), is to advance the interests of the Company’s stockholders by enhancing the Company’s ability to attract, retain and motivate persons who are expected to make important contributions to the Company by providing such persons with equity ownership opportunities and performance-based incentives that are intended to better align the interests of such persons with those of the Company’s stockholders. Except where the context otherwise requires, the term “*Company*” shall include any of the Company’s present or future parent or subsidiary corporations as defined in Sections 424(e) or (f) of the Internal Revenue Code of 1986, as amended, and any regulations promulgated thereunder (the “*Code*”) and any other business venture (including, without limitation, joint venture or limited liability company) in which the Company has a controlling interest, as determined by the Board of Directors of the Company (the “*Board*”).

2. Eligibility

All of the Company’s employees, officers and directors are eligible to be granted options, stock appreciation rights (“*SARs*”), restricted stock, restricted stock units (“*RSUs*”) and other stock-based awards (each, an “*Award*”) under the Plan. Consultants and advisors to the Company (as such terms are defined and interpreted for purposes of Form S-8 (or any successor form)) are also eligible to be granted Awards. Each person who is granted an Award under the Plan is deemed a “*Participant*.”

3. Administration and Delegation

(a) Administration by Board of Directors. The Plan will be administered by the Board. The Board shall have authority to grant Awards and to adopt, amend and repeal such administrative rules, guidelines and practices relating to the Plan as it shall deem advisable. The Board may construe and interpret the terms of the Plan and any Award agreements entered into under the Plan. The Board may correct any defect, supply any omission or reconcile any inconsistency in the Plan or any Award in the manner and to the extent it shall deem expedient to carry the Plan into effect and it shall be the sole and final judge of such expediency. All decisions by the Board shall be made in the Board’s sole discretion and shall be final and binding on all persons having or claiming any interest in the Plan or in any Award.

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

(c) Delegation to Officers. To the extent permitted by applicable law, the Board may delegate to one or more officers of the Company the power to grant Options and other Awards that constitute rights under Delaware law (subject to any limitations under the Plan) to employees or officers of the Company or any of its present or future subsidiary corporations and to exercise such other powers under the Plan as the Board may determine, provided that the Board shall fix the terms of the Awards to be granted by such officers (including the exercise price of the Awards, which may include a formula by which the exercise price will be determined) and the maximum number of shares subject to such Awards that the officers may grant; provided further, however, that no officer shall be authorized to grant Awards to any “executive officer” of the Company (as defined by Rule 3b-7 under the Securities Exchange Act of 1934, as amended (the “*Exchange Act*”)) or to any “officer” of the Company (as defined by Rule 16a-1 under the Exchange Act). The Board may not delegate authority under this Section 3(c) to grant restricted stock, unless Delaware law then permits such delegation.

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

4. Stock Available for Awards

(a) Number of Shares; Share Counting.

(1) Authorized Number of Shares. Subject to adjustment under Section 10, Awards may be made under the Plan for up to 11,700,000 shares of common stock, \$0.01 par value per share, of the Company (the “**Common Stock**”), any or all of which Awards may be in the form of Incentive Stock Options (as hereinafter defined). Shares issued under the Plan may consist in whole or in part of authorized but unissued shares or treasury shares.

(2) Fungible Share Pool. Subject to adjustment under Section 10, any Award that is not a Full-Value Award shall be counted against the share limits specified in Sections 4(a)(1) and 4(b)(2) as one share for each share of Common Stock subject to such Award and any Award that is a Full-Value Award shall be counted against the share limits specified in Sections 4(a)(1) and 4(b)(2) as 1.5 shares for each one share of Common Stock subject to such Full-Value Award. “**Full-Value Award**” means any Restricted Stock Award or Other Stock-Based Award (each as defined below). To the extent a share that was subject to an Award that counted as one share is returned to the Plan pursuant to Section 4(a)(3), each applicable share reserve will be credited with one share. To the extent that a share that was subject to a Full-Value Award that counted as 1.5 shares is returned to the Plan pursuant to Section 4(a)(3), each applicable share reserve will be credited with 1.5 shares.

(3) Share Counting. For purposes of counting the number of shares available for the grant of Awards under the Plan and under the sublimits contained in Section 4(b)(2), (i) all shares of Common Stock covered by independent SARs shall be counted against the number of shares available for the grant of Awards; *provided, however*, that independent SARs that may be settled only in cash shall not be so counted; (ii) if any Award (A) expires or is terminated, surrendered or canceled without having been fully exercised or is forfeited in whole or in part (including as the result of shares of Common Stock subject to such Award being repurchased by the Company at the original issuance price pursuant to a contractual repurchase right) or (B) results in any Common Stock not being issued (including as a result of an independent SAR that was settleable either in cash or in stock actually being settled in cash), the unused Common Stock covered by such Award shall again be available for the grant of Awards; provided, however, in the case of Incentive Stock Options (as hereinafter defined), the foregoing shall be subject to any limitations under the Code; and provided further, in the case of independent SARs, that the full number of shares subject to any stock-settled SAR shall be counted against the shares available under the Plan and against the sublimits listed in the first clause of this Section in proportion to the portion of the SAR actually exercised regardless of the number of shares actually used to settle such SAR upon exercise; (iii) shares of Common Stock delivered (by actual delivery, attestation, or net exercise) to the Company by a Participant to (A) purchase shares of Common Stock upon the exercise of an Award or (B) satisfy tax withholding obligations (including shares retained from the Award creating the tax obligation) shall not be added back to the number of shares available for the future grant of Awards; and (iv) shares of Common Stock repurchased by the Company on the open market using the proceeds from the exercise of an Award shall not increase the number of shares available for future grant of Awards.

(b) Sub-limits. Subject to adjustment under Section 10, the following sub-limits on the number of shares subject to Awards shall apply:

(1) Section 162(m) Per-Participant Limit. The maximum number of shares of Common Stock with respect to which Awards may be granted to any Participant under the Plan shall be 500,000 per calendar year, except in the calendar year in which the Participant is hired by the Company, in which case the maximum number of shares shall be 1,000,000. For purposes of the foregoing limit, the combination of an Option in tandem with a SAR (as each is hereinafter defined) shall be treated as a single Award. The per Participant limit described in this Section 4(b)(1) shall be construed and applied consistently with Section 162(m) of the Code or any successor provision thereto, and the regulations thereunder (“**Section 162(m)**”).

(2) Limit on Awards to Directors. The maximum number of shares with respect to which Awards may be granted to directors who are not employees of the Company at the time of grant shall be 10% of the maximum number of authorized shares set forth in Section 4(a)(1).

(c) Substitute Awards. In connection with a merger or consolidation of an entity with the Company or the acquisition by the Company of property or stock of an entity, the Board may grant awards in substitution for any options, stock or stock-based awards granted by such entity or an affiliate thereof. Substitute Awards may be granted on such terms as the Board deems appropriate in the circumstances, notwithstanding any limitations on Awards contained in the Plan. Substitute Awards shall not count against the overall share limit set forth in Section 4(a)(1) or any sublimits contained in the Plan, except as may be required by reason of Section 422 and related provisions of the Code.

5. Stock Options

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

(b) Incentive Stock Options. An Option that the Board intends to be an “incentive stock option” as defined in Section 422 of the Code (an “*Incentive Stock Option*”) shall only be granted to employees of Alnylam Pharmaceuticals, Inc., any of Alnylam Pharmaceuticals, Inc.’s present or future parent or subsidiary corporations as defined in Sections 424(e) or (f) of the Code, and any other entities the employees of which are eligible to receive Incentive Stock Options under the Code, and shall be subject to and shall be construed consistently with the requirements of Section 422 of the Code. The Company shall have no liability to a Participant, or any other party, if an Option (or any part thereof) that is intended to be an Incentive Stock Option is not an Incentive Stock Option or if the Company converts an Incentive Stock Option to a Nonstatutory Stock Option.

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

(1) if the Common Stock trades on a national securities exchange, the closing sale price (for the primary trading session) on the date of grant;

(2) if the Common Stock does not trade on any such exchange, the average of the closing bid and asked prices as reported by an authorized OTCBB market data vendor as listed on the OTCBB website (otcbb.com) on the date of grant; or

(3) if the Common Stock is not publicly traded, the Board will determine the Fair Market Value for purposes of the Plan using any measure of value it determines to be appropriate (including, as it considers appropriate, relying on appraisals) in a manner consistent with the valuation principles under Section 409A of the Code, except as the Board or Committee may expressly determine otherwise.

For any date that is not a trading day, the Fair Market Value of a share of Common Stock for such date will be determined by using the closing sale price or average of the bid and asked prices, as appropriate, for the immediately preceding trading day and with the timing in the formulas above adjusted accordingly. The Board can substitute a particular time of day or other measure of “closing sale price” or “bid and asked prices” if appropriate because of exchange or market procedures or can, in its sole discretion, use weighted averages either

on a daily basis or such longer period as complies with Section 409A of the Code. The Board has sole discretion to determine the Fair Market Value for purposes of this Plan, and all Awards are conditioned on the Participants' agreement that the Board's determination is conclusive and binding even though others might make a different determination.

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

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

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

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

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

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

(4) to the extent provided for in the applicable Nonstatutory Stock Option agreement or approved by the Board in its sole discretion, by delivery of a notice of "net exercise" to the Company, as a result of which the Participant would receive the number of shares of Common Stock underlying the Option so exercised reduced by the number of shares of Common Stock equal to the aggregate exercise price of the Option divided by the Fair Market Value on the date of exercise;

(5) to the extent permitted by applicable law and provided for in the applicable Option agreement or approved by the Board, in its sole discretion, by payment of such other lawful consideration as the Board may determine; or

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

(g) Limitation on Repricing. Unless such action is approved by the Company's stockholders: (1) no outstanding Option granted under the Plan may be amended to provide an exercise price per share that is lower than the then-current exercise price per share of such outstanding Option (other than adjustments pursuant to Section 10) and (2) the Board may not cancel any outstanding option (whether or not granted under the Plan) and grant in substitution therefor new Awards under the Plan covering the same or a different number of shares of Common Stock and having an exercise price per share lower than the then-current exercise price per share of the cancelled option or effect repricing by cancellation in exchange for cash.

(h) Minimum Vesting. Options granted to employees shall not become fully exercisable prior to the first anniversary of the date of grant. Notwithstanding the foregoing, (i) the Board may, in its discretion, either at the

time of grant or at any time thereafter, impose a faster vesting schedule than the schedule prescribed by the preceding sentence in the following extraordinary circumstances: death, disability or retirement of the Participant, or a merger, consolidation, sale, reorganization, recapitalization or change in control of the Company, and (ii) the vesting schedule prescribed by the preceding sentence shall not apply to options granted to employees, in the aggregate, for up to 10% of the maximum number of authorized shares set forth in Section 4(a)(1).

6. Director Options

(a) Board Discretion. The Board retains the specific authority to, from time to time, determine the number of shares subject to Options granted to non-employee directors under this Section 6, subject to the limitation on the aggregate number of shares issuable to non-employee directors contained in Section 4(b)(2). All Options granted to non-employee directors shall be Nonstatutory Stock Options. The Board also retains the specific authority to issue SARs, Restricted Stock Awards or Other Stock-Based Awards in lieu of Options, subject to the limitation on the aggregate number of shares issuable to non-employee directors contained in Section 4(b)(2).

(b) Terms of Director Options. Options granted under this Section 6 shall (i) have an exercise price equal to the Fair Market Value on the date of grant, (ii) vest in full on the first anniversary of the date of grant provided that the individual is serving on the Board on such date (or, in the case of Options granted under Section 6(a) to a newly elected or appointed director, as to one-third of the shares subject to the Option on each of the first, second and third anniversaries of the date of grant); provided that no additional vesting shall take place after the Participant ceases to serve as a director and further provided that the Board may provide for accelerated vesting in the case of death, disability, change in control, attainment of mandatory retirement age or retirement, (iii) expire on the earlier of 10 years from the date of grant or three months following cessation of service on the Board, provided that such three month period shall be extended to five years following cessation of service on the Board for any director with five or more years of continuous service on the Board, and (iv) contain such other terms and conditions as the Board shall determine.

7. Stock Appreciation Rights

(a) General. The Board may grant Awards consisting of SARs entitling the holder, upon exercise, to receive an amount of Common Stock or cash or a combination thereof (such form to be determined by the Board) determined by reference to appreciation, from and after the date of grant, in the Fair Market Value of a share of Common Stock over the measurement price established pursuant to Section 7(c). The date as of which such appreciation is determined shall be the exercise date.

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

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

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

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

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

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

(f) Limitation on Repricing. Unless such action is approved by the Company's stockholders: (1) no outstanding SAR granted under the Plan may be amended to provide an exercise price per share that is lower than the then-current exercise price per share of such outstanding SAR (other than adjustments pursuant to Section 10) and (2) the Board may not cancel any outstanding SAR (whether or not granted under the Plan) and grant in substitution therefor new Awards under the Plan covering the same or a different number of shares of Common Stock and having an exercise price per share lower than the then-current exercise price per share of the cancelled SAR or effect repricing by cancellation in exchange for cash.

(g) Minimum Vesting. SARs granted to employees shall not become fully exercisable prior to the first anniversary of the date of grant. Notwithstanding the foregoing, (i) the Board may, in its discretion, either at the time of grant or at any time thereafter, impose a faster vesting schedule than the schedule prescribed by the preceding sentence in the following extraordinary circumstances: death, disability or retirement of the Participant, or a merger, consolidation, sale, reorganization, recapitalization or change in control of the Company, and (ii) the vesting schedule prescribed by the preceding sentence shall not apply to SARs granted to employees, in the aggregate, for up to 10% of the maximum number of authorized shares set forth in Section 4(a)(1).

8. Restricted Stock; Restricted Stock Units

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

(b) Terms and Conditions for All Restricted Stock Awards. The Board shall determine the terms and conditions of a Restricted Stock Award, including the conditions for vesting and repurchase (or forfeiture) and the issue price, if any. Restricted Stock Awards that vest solely based on the passage of time shall be zero percent vested prior to the first anniversary of the date of grant (or, in the case of Awards to non-employee directors, if earlier, the date of the first annual meeting held after the date of grant), no more than one-third vested prior to the second anniversary of the date of grant (or, in the case of Awards to non-employee directors, if earlier, the date of the second annual meeting held after the date of grant), and no more than two-thirds vested prior to the third anniversary of the date of grant (or, in the case of Awards to non-employee directors, if earlier, the date of the third annual meeting held after the date of grant). Restricted Stock Awards that do not vest solely based on the passage of time shall not vest prior to the first anniversary of the date of grant (or, in the case of Awards to non-employee directors, if earlier, the date of the first annual meeting held after the date of grant). The two foregoing

sentences shall not apply to (1) Performance Awards granted pursuant to Section 11(i) or (2) Restricted Stock Awards granted, in the aggregate, for up to 10% of the maximum number of authorized shares set forth in Section 4(a)(1). Notwithstanding any other provision of this Plan (other than Section 11(i), if applicable), the Board may, in its discretion, either at the time a Restricted Stock Award is made or at any time thereafter, waive its right to repurchase shares of Common Stock (or waive the forfeiture thereof) or remove or modify any part or all of the restrictions applicable to the Restricted Stock Award, provided that the Board may only exercise such rights in the following extraordinary circumstances: death, disability or retirement of the Participant, or a merger, consolidation, sale, reorganization, recapitalization, or change in control of the Company.

(c) Additional Provisions Relating to Restricted Stock.

(1) Dividends. Participants holding shares of Restricted Stock will be entitled to all ordinary cash dividends paid with respect to such shares, unless otherwise provided by the Board; provided, however, that with respect to Restricted Stock with vesting that is tied to the attainment of performance conditions, cash dividends may accrue during the performance period but may not be paid unless and until the performance conditions are attained. Unless otherwise provided by the Board, if any dividends or distributions are paid in shares, or consist of a dividend or distribution to holders of Common Stock other than an ordinary cash dividend, the shares, cash or other property will be subject to the same restrictions on transferability and forfeitability as the shares of Restricted Stock with respect to which they were paid. Each dividend payment will be made no later than the end of the calendar year in which the dividends are paid to shareholders of that class of stock or, if later, the 15th day of the third month following the date the dividends are paid to shareholders of that class of stock.

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

(d) Additional Provisions Relating to Restricted Stock Units.

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

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

(3) Dividend Equivalents. To the extent provided by the Board, in its sole discretion, a grant of Restricted Stock Units may provide Participants with the right to receive an amount equal to any dividends or other distributions declared and paid on an equal number of outstanding shares of Common Stock ("**Dividend Equivalents**"). Dividend Equivalents may be paid currently or credited to an account for the Participants, may be settled in cash and/or shares of Common Stock and may be subject to the same restrictions on transfer and forfeitability as the Restricted Stock Units with respect to which paid, as determined by the Board in its sole discretion, subject in each case to such terms and conditions as the Board shall establish, in each case to be set forth in the applicable Award agreement. Notwithstanding the foregoing, with respect to Restricted Stock Units with vesting that is tied to the attainment of performance conditions, Dividend Equivalents may accrue during the performance period but may not be paid unless and until the performance conditions are attained.

9. Other Stock-Based Awards

(a) General. Other Awards of shares of Common Stock, and other Awards that are valued in whole or in part by reference to, or are otherwise based on, shares of Common Stock or other property, may be granted hereunder to Participants (“**Other Stock-Based-Awards**”), including without limitation Awards entitling recipients to receive shares of Common Stock to be delivered in the future. Such Other Stock-Based Awards shall also be available as a form of payment in the settlement of other Awards granted under the Plan or as payment in lieu of compensation to which a Participant is otherwise entitled. Other Stock-Based Awards may be paid in shares of Common Stock or cash, as the Board shall determine.

(b) Terms and Conditions. Subject to the provisions of the Plan, the Board shall determine the terms and conditions of each Other Stock-Based Award, including any purchase price applicable thereto. Other Stock-Based Awards that vest solely based on the passage of time shall be zero percent vested prior to the first anniversary of the date of grant (or, in the case of Awards to non-employee directors, if earlier, the date of the first annual meeting held after the date of grant), no more than one-third vested prior to the second anniversary of the date of grant (or, in the case of Awards to non-employee directors, if earlier, the date of the second annual meeting held after the date of grant), and no more than two-thirds vested prior to the third anniversary of the date of grant (or, in the case of Awards to non-employee directors, if earlier, the date of the third annual meeting held after the date of grant). Other Stock-Based Awards that do not vest solely based on the passage of time shall not vest prior to the first anniversary of the date of grant (or, in the case of Awards to non-employee directors, if earlier, the date of the first annual meeting held after the date of grant). The two foregoing sentences shall not apply to (1) Performance Awards granted pursuant to Section 11(i) or (2) Other Stock-Based Awards granted, in the aggregate, for up to 10% of the maximum number of authorized shares set forth in Section 4(a)(1). Notwithstanding any other provision of this Plan (other than Section 11(i), if applicable), the Board may, in its discretion, either at the time an Other Stock-Based Award is made or at any time thereafter, waive its right to repurchase shares of Common Stock (or waive the forfeiture thereof) or remove or modify any part or all of the restrictions applicable to the Other Stock-Based Award, provided that the Board may only exercise such rights in the following extraordinary circumstances: death, disability or retirement of the Participant, or a merger, consolidation, sale, reorganization, recapitalization, or change in control of the Company.

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

(a) Changes in Capitalization. In the event of any stock split, reverse stock split, stock dividend, recapitalization, combination of shares, reclassification of shares, spin-off or other similar change in capitalization or event, or any dividend or distribution to holders of Common Stock other than an ordinary cash dividend, (i) the number and class of securities available under the Plan, (ii) the sub-limits, fungible pool and share counting rules set forth in Sections 4(a) and 4(b), (iii) the minimum vesting provisions of Restricted Stock Awards and Other Stock-Based Awards set forth in Sections 5(h), 7(g), 8(b) and 9(b), (iv) the number and class of securities and exercise price per share of each outstanding Option and each Option issuable under Section 6, (v) the share- and per-share provisions and the measurement price of each SAR, (vi) the number of shares subject to and the repurchase price per share subject to each outstanding Restricted Stock Award and (vii) the share- and per-share-related provisions and the purchase price, if any, of each outstanding Other Stock-Based Award, shall be equitably adjusted by the Company (or substituted Awards may be made, if applicable) in the manner determined by the Board. Without limiting the generality of the foregoing, in the event the Company effects a split of the Common Stock by means of a stock dividend and the exercise price of and the number of shares subject to an outstanding Option are adjusted as of the date of the distribution of the dividend (rather than as of the record date for such dividend), then an optionee who exercises an Option between the record date and the distribution date for such stock dividend shall be entitled to receive, on the distribution date, the stock dividend with respect to the shares of Common Stock acquired upon such Option exercise, notwithstanding the fact that such shares were not outstanding as of the close of business on the record date for such stock dividend.

(b) Reorganization Events.

(1) Definition. A “**Reorganization Event**” shall mean: (a) any merger or consolidation of the Company with or into another entity where the stockholders of the Company immediately before the merger or consolidation would not, immediately after the merger or consolidation, beneficially own, directly or indirectly, shares representing a majority of the outstanding voting shares of the resulting or successor entity (or its ultimate parent, if applicable), (b) any transfer or disposition of all of the Common Stock of the Company for cash, securities or other property pursuant to a share exchange or other transaction or (c) any liquidation or dissolution of the Company.

(2) Consequences of a Reorganization Event on Awards Other than Restricted Stock Awards. In connection with a Reorganization Event, the Board may take any one or more of the following actions as to all or any (or any portion of) outstanding Awards other than Restricted Stock Awards on such terms as the Board determines: (i) provide that Awards shall be assumed, or substantially equivalent Awards shall be substituted, by the acquiring or succeeding corporation (or an affiliate thereof), (ii) upon written notice to a Participant, provide that the Participant’s unexercised Awards will terminate immediately prior to the consummation of such Reorganization Event unless exercised by the Participant within a specified period following the date of such notice, (iii) provide that outstanding Awards shall become exercisable, realizable, or deliverable, or restrictions applicable to an Award shall lapse, in whole or in part prior to or upon such Reorganization Event, (iv) in the event of a Reorganization Event under the terms of which holders of Common Stock will receive upon consummation thereof a cash payment for each share surrendered in the Reorganization Event (the “**Acquisition Price**”), make or provide for a cash payment to a Participant equal to the excess, if any, of (A) the Acquisition Price times the number of shares of Common Stock subject to the Participant’s Awards (to the extent the exercise price does not exceed the Acquisition Price) over (B) the aggregate exercise price of all such outstanding Awards and any applicable tax withholdings, in exchange for the termination of such Awards, (v) provide that, in connection with a liquidation or dissolution of the Company, Awards shall convert into the right to receive liquidation proceeds (if applicable, net of the exercise price thereof and any applicable tax withholdings) and (vi) any combination of the foregoing. In taking any of the actions permitted under this Section 10(b), the Board shall not be obligated by the Plan to treat all Awards, all Awards held by a Participant, or all Awards of the same type, identically.

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

(3) Consequences of a Reorganization Event on Restricted Stock Awards. Upon the occurrence of a Reorganization Event other than a liquidation or dissolution of the Company, the repurchase and other rights of the Company under each outstanding Restricted Stock Award shall inure to the benefit of the Company’s successor and shall, unless the Board determines otherwise, apply to the cash, securities or other property which the Common Stock was converted into or exchanged for pursuant to such Reorganization Event in the same manner and to the same extent as they applied to the Common Stock subject to such Restricted Stock Award; *provided, however*, that the Board may provide for termination or deemed satisfaction of such repurchase or other rights under the instrument evidencing any Restricted Stock Award or any other agreement between a Participant and the Company, either initially or by amendment. Upon the occurrence of a Reorganization Event involving the liquidation or dissolution of the Company, except to the extent specifically provided to the contrary in the instrument evidencing any Restricted Stock Award or any other agreement between a Participant and the

Company, all restrictions and conditions on all Restricted Stock Awards then outstanding shall automatically be deemed terminated or satisfied.

11. General Provisions Applicable to Awards

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

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

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

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

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

(f) Amendment of Award. Except as otherwise provided in Sections 5(h), 7(g), 8(b) and 9(b) with respect to the vesting of Restricted Stock Awards and Other Stock-Based Awards, Section 11(i) with respect to Performance Awards or Section 12(d) with respect to actions requiring shareholder approval, the Board may amend, modify or terminate any outstanding Award, including but not limited to, substituting therefor another

Award of the same or a different type, changing the date of exercise or realization, and converting an Incentive Stock Option to a Nonstatutory Stock Option. The Participant's consent to such action shall be required unless (i) the Board determines that the action, taking into account any related action, would not materially and adversely affect the Participant's rights under the Plan or (ii) the change is permitted under Section 10 hereof.

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

(h) Acceleration. Except as otherwise provided in Sections 5(h), 7(g), 8(b), 9(b) and 11(i), the Board may at any time provide that any Award shall become immediately exercisable in full or in part, free of some or all restrictions or conditions, or otherwise realizable in full or in part, as the case may be.

(i) Performance Awards.

(1) Grants. Restricted Stock Awards and Other Stock-Based Awards under the Plan may be made subject to the achievement of performance goals pursuant to this Section 11(i) ("**Performance Awards**"), subject to the limit in Section 4(b)(1) on shares covered by such grants. Subject to Section 11(i)(4), no Performance Awards shall vest prior to the first anniversary of the date of grant.

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

(3) Performance Measures. For any Award that is intended to qualify as Performance-Based Compensation, the Committee shall specify that the degree of granting and vesting shall be subject to the achievement of one or more objective performance measures established by the Committee, which shall be based on the relative or absolute attainment of specified levels of one or any combination of the following: net income, earnings before or after discontinued operations, interest, taxes, depreciation and/or amortization, operating profit before or after discontinued operations and/or taxes, sales, sales growth, earnings growth, cash flow or cash position, gross margins, stock price, market share, return on sales, assets, equity or investment, improvement of financial ratings, achievement of balance sheet or income statement objectives, total shareholder return, market penetration goals, unit volume, geographic business expansion goals, drug discovery or other scientific goals, pre-clinical or clinical goals, organizational goals, regulatory approvals, cost targets and goals relating to acquisitions, divestitures and/or strategic partnerships.

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

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

12. Miscellaneous

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

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

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

(d) Amendment of Plan. The Board may amend, suspend or terminate the Plan or any portion thereof at any time provided that (i) to the extent required by Section 162(m), no Award granted to a Participant that is intended to comply with Section 162(m) after the date of such amendment shall become exercisable, realizable or vested, as applicable to such Award, unless and until the Company's stockholders approve such amendment if required by Section 162(m) (including the vote required under Section 162(m)); (ii) no amendment that would require stockholder approval under the rules of the NASDAQ Stock Market ("***NASDAQ***") may be made effective unless and until the Company's stockholders approve such amendment; and (iii) if the NASDAQ amends its corporate governance rules so that such rules no longer require stockholder approval of "material amendments" to equity compensation plans, then, from and after the effective date of such amendment to the NASDAQ rules, no amendment to the Plan (A) materially increasing the number of shares authorized under the Plan (other than pursuant to Sections 4(c) or 10), (B) expanding the types of Awards that may be granted under the Plan, or (C) materially expanding the class of participants eligible to participate in the Plan shall be effective unless and until the Company's stockholders approve such amendment. In addition, if at any time the approval of the Company's stockholders is required as to any other modification or amendment under Section 422 of the Code or any successor provision with respect to Incentive Stock Options, the Board may not effect such modification or amendment without such approval. Unless otherwise specified in the amendment, any amendment to the Plan adopted in accordance with this Section 12(d) shall apply to, and be binding on the holders of, all Awards outstanding under the Plan at the time the amendment is adopted, provided the Board determines that such amendment does not materially and adversely affect the rights of Participants under the Plan. Options may be granted that are conditioned upon stockholder approval of any amendment adding shares of Common Stock to the Plan, but no such conditioned Options may be exercised until stockholder approval is obtained. If stockholder approval is not obtained, all such conditioned Option grants shall be cancelled and be of no further force or effect.

(e) Authorization of Sub-Plans. The Board may from time to time establish one or more sub-plans under the Plan for purposes of satisfying applicable securities or tax laws of various jurisdictions. The Board shall establish such sub-plans by adopting supplements to the Plan containing (i) such limitations on the Board's discretion under the Plan as the Board deems necessary or desirable or (ii) such additional terms and conditions not otherwise inconsistent with the Plan as the Board shall deem necessary or desirable. All supplements adopted by the Board shall be deemed to be part of the Plan, but each supplement shall apply only to Participants within the affected jurisdiction and the Company shall not be required to provide copies of any supplement to Participants in any jurisdiction which is not the subject of such supplement.

(f) Non-U.S. Participants. Awards may be granted to Participants who are non-U.S. citizens or residents employed outside the United States, or both, on such terms and conditions different from those applicable to Awards to Participants employed in the United States as may, in the judgment of the Board, be necessary or desirable in order to recognize differences in local law or tax policy. The Board also may impose conditions on

the exercise or vesting of Awards in order to minimize the Board's obligation with respect to tax equalization for Participants on assignments outside their home country. The Board may approve such supplements to or amendments, restatements or alternative versions of the Plan as it may consider necessary or appropriate for such purposes, without thereby affecting the terms of this Plan as in effect for any other purpose, and the Secretary or other appropriate officer of the Company may certify any such document as having been approved and adopted in the same manner as this Plan.

(g) Compliance with Section 409A of the Code. Except as provided in individual Award agreements initially or by amendment, if and to the extent any portion of any payment, compensation or other benefit provided to a Participant in connection with his or her employment termination is determined to constitute "nonqualified deferred compensation" within the meaning of Section 409A of the Code and the Participant is a specified employee as defined in Section 409A(a)(2)(B)(i) of the Code, as determined by the Company in accordance with its procedures, by which determination the Participant (through accepting the Award) agrees that he or she is bound, such portion of the payment, compensation or other benefit shall not be paid before the day that is six months plus one day after the date of "separation from service" (as determined under Section 409A of the Code) (the "**New Payment Date**"), except as Section 409A of the Code may then permit. The aggregate of any payments that otherwise would have been paid to the Participant during the period between the date of separation from service and the New Payment Date shall be paid to the Participant in a lump sum on such New Payment Date, and any remaining payments will be paid on their original schedule.

The Company makes no representations or warranty and shall have no liability to the Participant or any other person if any provisions of or payments, compensation or other benefits under the Plan are determined to constitute nonqualified deferred compensation subject to Section 409A of the Code but do not to satisfy the conditions of that section.

(h) Limitations on Liability. Notwithstanding any other provisions of the Plan, no individual acting as a director, officer, other employee, or agent of the Company will be liable to any Participant, former Participant, spouse, beneficiary, or any other person for any claim, loss, liability, or expense incurred in connection with the Plan, nor will such individual be personally liable with respect to the Plan because of any contract or other instrument he or she executes in his or her capacity as a director, officer, other employee, or agent of the Company. The Company will indemnify and hold harmless each director, officer, other employee, or agent of the Company to whom any duty or power relating to the administration or interpretation of the Plan has been or will be delegated, against any cost or expense (including attorneys' fees) or liability (including any sum paid in settlement of a claim with the Board's approval) arising out of any act or omission to act concerning this Plan unless arising out of such person's own fraud or bad faith.

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

(j) Clawback. Grants made under this Plan shall be subject to the Company's clawback policies in effect from time to time.

