



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

**NOTICE OF 2012 ANNUAL MEETING OF STOCKHOLDERS**  
**To Be Held On June 21, 2012**

To our Stockholders:

NOTICE IS HEREBY GIVEN that the 2012 Annual Meeting of Stockholders of Alnylam Pharmaceuticals, Inc. will be held on Thursday, June 21, 2012 at 9:00 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, each to serve as a Class II director for a term ending in 2015, or until a successor has been duly elected and qualified;
2. 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;
3. To ratify the appointment of PricewaterhouseCoopers LLP, an independent registered public accounting firm, as our independent auditors for the fiscal year ending December 31, 2012; and
4. To transact any other business that may properly come before the annual meeting or any adjournment or postponement thereof.

Stockholders of record at the close of business on April 25, 2012, the record date for the annual meeting, are entitled to notice of, and to vote at, the annual meeting or any adjournment thereof. Your vote is important regardless of the number of shares you own. 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](http://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. You may obtain directions to the location of the annual meeting on our website at [www.alnylam.com](http://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', written over a horizontal line.

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

Cambridge, Massachusetts  
April 27, 2012

## TABLE OF CONTENTS

	<u>Page</u>
<b>PROXY STATEMENT</b> .....	<b>1</b>
<b>IMPORTANT INFORMATION ABOUT THE ANNUAL MEETING AND VOTING</b> .....	<b>1</b>
<b>OWNERSHIP OF OUR COMMON STOCK</b> .....	<b>7</b>
<b>PROPOSAL 1 — ELECTION OF CLASS II DIRECTORS</b> .....	<b>9</b>
<b>CORPORATE GOVERNANCE</b> .....	<b>16</b>
<b>CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS</b> .....	<b>24</b>
<b>INFORMATION ABOUT EXECUTIVE OFFICER AND DIRECTOR COMPENSATION</b> .....	<b>26</b>
<b>PROPOSAL 2 — ADVISORY VOTE ON EXECUTIVE COMPENSATION</b> .....	<b>49</b>
<b>PROPOSAL 3 — RATIFICATION OF APPOINTMENT OF INDEPENDENT AUDITORS</b> .....	<b>50</b>
<b>OTHER MATTERS</b> .....	<b>50</b>
<b>STOCKHOLDER PROPOSALS</b> .....	<b>50</b>

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

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**PROXY STATEMENT**

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**for the 2012 Annual Meeting of Stockholders  
to be held on June 21, 2012**

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 2012 Annual Meeting of Stockholders to be held on Thursday, June 21, 2012 at 9:00 a.m., Eastern Time, at the offices of Alnylam Pharmaceuticals, Inc., 300 Third Street, Cambridge, Massachusetts, and at any adjournment 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 2012 CEO Letter to Shareholders and Annual Report on Form 10-K for the fiscal year ended December 31, 2011 are being mailed to stockholders with these proxy materials on or about May 3, 2012.

**Important Notice Regarding the Availability of Proxy Materials for  
the Annual Meeting of Stockholders to be Held on June 21, 2012:**

**This proxy statement and our 2012 CEO Letter to Shareholders are available for viewing, printing and downloading at [www.alnylam.com/AnnualMeeting](http://www.alnylam.com/AnnualMeeting).**

**A copy of our Annual Report on Form 10-K for the fiscal year ended December 31, 2011, as filed with the Securities and Exchange Commission, or SEC, 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, 2011 are also available on the SEC's website at [www.sec.gov](http://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 2012 annual meeting of stockholders to be held at our offices at 300 Third Street, Cambridge, Massachusetts on Thursday, June 21, 2012 at 9:00 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 have been a stockholder of record at the close of business on April 25, 2012, the record date for our annual meeting. The holders of the 51,893,758 shares of our common stock outstanding as of the record date are entitled to vote at the annual meeting.
- If you were a stockholder of record on April 25, 2012, 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](http://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 June 20, 2012, 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, Canada and Puerto Rico, 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 June 20, 2012, 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 June 20, 2012, 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, on a non-binding advisory basis, of named executive officer compensation;
    - "FOR" the ratification of the appointment of PricewaterhouseCoopers LLP as our independent auditors for the fiscal year ending December 31, 2012; 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.

**If your shares are held in “street name,”** meaning they are held for your account by a bank, broker or other nominee, you may vote:

- (1) **Over the Internet or by Telephone:** You will receive instructions from your bank, broker or other nominee if they permit Internet or telephone voting. You should follow those instructions.
- (2) **By Mail:** You will receive instructions from your bank, broker or other nominee explaining how you can vote your shares by mail. You should follow those instructions.
- (3) **In Person at the 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 June 20, 2012.
- (2) Sign a new proxy and submit it as instructed above. Only your latest dated proxy, received by Computershare not later than June 20, 2012, 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 or 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) and the non-binding advisory vote on executive compensation (Proposal 2) are non-discretionary matters.** The ratification of the appointment of our independent auditors (Proposal 3), 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 and 2. 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 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 — Non-binding Advisory Vote on the Compensation of Our Named Executive Officers**

To approve Proposal 2, 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 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 withheld on Proposal 2. As a result, voting to ABSTAIN will have no effect on the voting on Proposal 2.

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 3 — Ratification of Appointment of Independent Auditors**

To approve Proposal 3, stockholders holding a majority of the votes cast on the matter must vote FOR the proposal. **Proposal 3 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 3. If you vote to ABSTAIN on 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 the proposal. As a result, voting to ABSTAIN will have no effect on the voting on Proposal 3.

Although stockholder approval of our audit committee’s appointment of PricewaterhouseCoopers LLP as our independent auditors for the year ended December 31, 2012 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, 2012.

- 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 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.** We will report the voting results in a Current Report on Form 8-K within four business days following the adjournment of our annual meeting.
- 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 have paid a fee of \$6,500, 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 material 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 June 19, 2012, 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 February 29, 2012, 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 5% or more of the outstanding shares of our common stock;
- each of our directors and director nominees;
- our principal executive officer, our principal financial officer, our former principal financial officer and our three other most highly compensated executive officers who were serving as executive officers on December 31, 2011, whom, collectively, we refer to as our named executive officers; and
- all of our directors and current 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.

<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>
<b>Holders of more than 5% of our common stock</b>						
Novartis Pharma AG(4) . . . . .	5,602,898		—		5,602,898	10.8%
FMR LLC(5) . . . . .	4,796,976		—		4,796,976	9.2%
Eastern Capital Limited(6) . . . . .	4,229,116		—		4,229,116	8.1%
<b>Directors and Named Executive Officers</b>						
Dennis A. Ausiello, M.D.(7) . . . . .	16,665(10)		—		16,665	*
John K. Clarke . . . . .	8,891		80,000		88,891	*
Victor J. Dzau, M.D. . . . .	—		75,000		75,000	*
Marsha H. Fanucci . . . . .	10,000		10,000		20,000	*
John M. Maraganore, Ph.D. . . . .	60,480(11)		1,228,672		1,289,152	2.4%
Steven M. Paul, M.D. . . . .	—		10,000		10,000	*
Paul R. Schimmel, Ph.D. . . . .	314,496(12)		60,000		374,496	*
Phillip A. Sharp, Ph.D. . . . .	261,932(13)		285,000		546,932	1.0%
Kevin P. Starr . . . . .	—		192,631		192,631	*
Barry E. Greene . . . . .	6,421(11)		501,815		508,236	1.0%
Akshay K. Vaishnav, M.D., Ph.D. . . . .	14,521(11)		187,095		201,616	*
Laurence E. Reid, Ph.D. . . . .	12,733(11)		85,184		97,917	*
Michael P. Mason(8) . . . . .	9,182(11)		68,401		77,583	*
Patricia L. Allen(9) . . . . .	2,235(11)		182,922		185,157	*
All directors and current executive officers as a group (13 persons) . . . . .	715,321		2,783,798		3,499,119	6.4%

\* Less than 1% of our outstanding common stock.

(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 vested or will vest within 60 days after February 29, 2012.
- (3) Percentage of beneficial ownership is based on 51,903,160 shares of our common stock outstanding as of February 29, 2012, which includes the 8,625,000 shares we sold in a public offering in February 2012. 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 on connection with the public offering. Shares of common stock subject to options currently exercisable, or exercisable within 60 days of February 29, 2012, 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. 3 to a Schedule 13G filed by Novartis AG and Novartis Pharma AG with the SEC on February 7, 2011, as of December 31, 2010, Novartis Pharma AG is the record and beneficial owner of 5,602,898 shares of our common stock and Novartis AG, as parent of Novartis Pharma AG, is the indirect beneficial owner of such shares. Our investor rights agreement with Novartis Pharma AG provides Novartis Pharma AG with the right to acquire additional equity securities of Alnylam in the event that we propose to sell or issue any equity securities, subject to specified exceptions, as described in the investor rights agreement, such that Novartis would be able generally to maintain its ownership percentage in Alnylam. The address of Novartis Pharma AG is Lichtstrasse 35, V8 CH-4002, Basel, Switzerland.
- (5) According to Amendment No. 7 to a Schedule 13G filed by FMR LLC (previously known as FMR Corp.) with the SEC on February 14, 2012, as of December 31, 2011, 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 4,796,663 shares of our common stock, as a result of acting as an investment advisor to various investment companies registered under Section 8 of the Investment Company Act of 1940. The ownership of one investment company, Fidelity Growth Company Fund, amounted to 2,836,294 shares of our common stock. Edward C. Johnson 3d, Chairman 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 4,796,663 shares of our common stock owned by such funds. Neither FMR LLC nor Edward C. Johnson 3d 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. Pyramis Global Advisors Trust Company, or PGATC, an indirect wholly-owned subsidiary of FMR LLC and a bank as defined in Section 3(a)(6) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, is the beneficial owner of 313 shares of our common stock, as a result of its serving as investment manager of institutional accounts owning such shares. Mr. Johnson and FMR LLC, through its control of PGATC, each has sole dispositive power over 313 shares of our common stock and sole power to vote or to direct the voting of 313 shares owned by the institutional accounts managed by PGATC as reported above. 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 82 Devonshire Street, Boston, MA 02109.
- (6) According to Amendment No. 4 to a Schedule 13G filed by Eastern Capital Limited with the SEC on February 14, 2012, as of December 31, 2011, Eastern Capital Limited, a direct wholly owned subsidiary of Portfolio Services Ltd., a Cayman Islands company, and Kenneth B. Dart, beneficially own 4,229,116 shares of our common stock. Mr. Dart is the beneficial owner of all of the outstanding shares of Portfolio Services Ltd., which in turn owns all the outstanding shares of Eastern Capital Limited. Eastern Capital Limited and Mr. Dart have shared voting and dispositive power with respect to the shares held. The address of Eastern Capital Limited is 10 Market Street, #773, Camana Bay, Grand Cayman, KY1-9006, Cayman Islands.
- (7) Dr. Ausiello was elected to our board of directors in April 2012. Dr. Ausiello filled a vacancy created in April 2011 upon the retirement of one of our directors.

- (8) In February 2011, following the resignation of Ms. Allen, as described in footnote 10, we appointed Mr. Mason vice president of finance and treasurer and our principal financial and accounting officer.
- (9) In February 2011, Ms. Allen resigned from her position as vice president of finance and treasurer. Following her resignation, Ms. Allen continued to serve as our consultant through March 21, 2012, during which time her stock options continued to vest. Upon expiration of her consulting agreement, all unvested stock options were cancelled. Ms. Allen has three months following the termination of her consulting agreement to exercise any vested stock options, after which time all such outstanding stock options will be cancelled.
- (10) Includes 3,500 shares of our common stock held in a trust, of which Dr. Ausiello's spouse is the trustee.
- (11) Includes shares of our common stock contributed by Alnylam to our 401(k) plan for the benefit of our named executive officers as of February 29, 2012: Dr. Maraganore, 1,978 shares; Mr. Greene, 1,849 shares; Dr. Vaishnav, 1,934 shares; Dr. Reid, 1,052 shares; Mr. Mason, 1,335 shares; and Ms. Allen, 1,165 shares.
- (12) 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 investment and voting power.
- (13) Includes shares of our common stock held by the Phillip A. Sharp 2009 Grantor Retained Annuity Trust, of which Dr. Sharp is the trustee and over which he has sole investment and voting power.

#### **Section 16(a) Beneficial Ownership Reporting Compliance**

Section 16(a) of 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 filing requirements of Section 16(a) were satisfied with respect to 2011.

#### **PROPOSAL 1 — ELECTION OF CLASS II DIRECTORS**

We have three classes of directors, Class I, Class II and Class III, and the board has set the number of directors at nine. 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.

Dennis A. Ausiello, M.D., John K. Clarke and Marsha H. Fanucci are currently serving as Class II directors. Mr. Clarke has served as a director since 2002 and Ms. Fanucci has served as a director since 2010. Dr. Ausiello has served as a director since April 2012, and was elected by our board of directors to fill a vacancy created in April 2011 upon the retirement of one of our directors. The Class II directors elected at this year's annual meeting will serve as members of our board until the 2015 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, if elected; however, if any nominee should be unable to serve, the person acting under the proxy may vote the proxy for a substitute nominee designated by our board. Our board has no reason to believe that Dr. Ausiello, Mr. Clarke or Ms. Fanucci would be unable to serve if elected.

**Board Recommendation**

**Our board of directors recommends a vote “FOR” the election of each of the Class II director nominees.**

Set forth below for each director, including the Class II director nominees, Dr. Ausiello, Mr. Clarke and Ms. Fanucci, is information as of January 31, 2012 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 our board of directors to the conclusion that he or she should serve as a director in light of our business and structure. 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>
<b>Class II directors, nominees to be elected at the 2012 annual meeting (terms expiring in 2015)</b>			
Dennis A. Ausiello, M.D. . . . . .	66	2012	<p>Dr. Ausiello has served as a member of our board of directors since April 2012. Dr. Ausiello serves as the Jackson Professor of Clinical Medicine at Harvard Medical School and has served as the Chief of Medicine at Massachusetts General Hospital since 1996. 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 of directors, 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 work as the Chief of Medicine at Massachusetts General Hospital, Dr. Ausiello also brings leadership, oversight and finance experience to our board of directors.</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>	58	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 Verastem, Inc., and formerly served as a director of Sirtris Pharmaceuticals, Inc. and Visicu, Inc.</p> <p>Mr. Clarke has over 29 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>	58	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., 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>
<b>Class III directors (terms expiring in 2013)</b>			
Victor J. Dzau, M.D. . . . . . <i>Nominating and Corporate Governance Committee Science and Technology Committee</i>	66	2007	<p>Dr. Dzau has served as a member of our board of directors since April 2007. Dr. Dzau has served as Chancellor for Health Affairs at Duke University and President and Chief Executive Officer of the Duke University Health System since July 2004. From July 1996 to September 2004, he was the Hersey Professor of Theory and Practice of Medicine at Harvard Medical School and Chair of the Department of Medicine, Physician in Chief and Director of Research at Brigham and Women’s Hospital. He is a former Chairman of the National Institutes of Health (NIH) Cardiovascular Disease Advisory Committee and served on the Advisory Committee to the Director of the NIH. He is a member of the Institute of Medicine. He also serves as a director of Duke University Health System, Medtronic, Inc. and PepsiCo, Inc., and formerly served as a director of Genzyme Corporation.</p> <p>Dr. Dzau brings to our board extensive experience in the medical field, both in the hospital, as a practicing physician, and the academic research settings. As the President and Chief Executive Officer of the Duke University Health System, Dr. Dzau has a deep understanding of health care providers and of physicians, who are key opinion leaders and partners to Alnylam 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>
Steven M. Paul, M.D. . . . . . <i>Compensation Committee (Chair)</i> <i>Science and Technology</i> <i>Committee</i>	61	2010	<p>Dr. Paul has served as a member of our board of directors since September 2010. Dr. Paul is the Director of the Appel Alzheimer’s Disease Research Institute and a Professor of Neurology (Neuroscience), Psychiatry and Pharmacology at Weill Cornell Medical College of Cornell University. 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. Prior to this, he served as Group Vice President of Therapeutic Area Discovery Research and Clinical Investigation for Lilly Research Laboratories for more than five years. He is a member 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 the Foundation of the National Institutes of Health, and is a Venture Partner at Third Rock Ventures, a venture capital firm.</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>
Kevin P. Starr . . . . . <i>Audit Committee (Chair)</i> <i>Compensation Committee</i>	49	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 December 2002 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., a biopharmaceutical company. He also served as Millennium’s Chief Financial Officer from December 1998 to December 2002.</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>
<b>Class I directors (terms expiring in 2014)</b>			
John M. Maraganore, Ph.D. . . . . .	49	2002	<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 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.</p> <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., a biopharmaceutical company. He also serves as a director of the Biotechnology Industry Organization.</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<sup>®</sup>, 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 organizations and created shareholder 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>



<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 Science and Technology Committee</i>	71	2002	<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 RNA interference, or RNAi.</p>
Phillip A. Sharp, Ph.D. . . . . . <i>Science and Technology Committee (Chair)</i>	67	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.), a biotechnology company, which he co-founded in 1978.</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>
			<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 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>

## 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 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 only 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 Ms. Fannuci, Drs. Ausiello, Dzau, Paul and Schimmel and Messrs. 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). In making such determination, our board considered relationships, if any, that each non-employee director has with Alnylam, their beneficial ownership of our outstanding common stock and all other facts and circumstances our board deemed relevant in determining their independence.

## **Role of the Board**

Our board of directors is responsible for establishing broad corporate policies and reviewing our overall performance rather than day-to-day operations. The primary responsibility of our board is to oversee the management of our company and, in doing so, serve the best interests of the company and our stockholders. 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; regulatory reviews, approvals and oversight; 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 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 and discovery strategy and programs.

### Board of Directors Meetings and Attendance













Our board met six times during 2011, either in person or by teleconference. During 2011, 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 of our directors attended the 2011 annual meeting of stockholders. We expect all or substantially all of our directors to attend the 2012 annual meeting.

### 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 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.				
John K. Clarke ★				
Victor J. Dzau, M.D.				
Marsha H. Fanucci				
John M. Maraganore, Ph.D.				
Steven M. Paul, M.D.				
Paul R. Schimmel, Ph.D.				
Phillip A. Sharp, Ph.D.				
Kevin P. Starr				

★ Chairman of Board/Lead Outside Director  Chairperson  Member

### ***Audit Committee***

Our audit committee is responsible for:

- 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 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 party 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. Through April 1, 2011, the members of our audit committee were Messrs. Starr (Chair) and Clarke and Dr. Schimmel. We believe that each member of our audit committee satisfies the requirements for membership, including independence, established by NASDAQ and the SEC. 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 four times during 2011, either in person or by teleconference.

### ***Compensation Committee***

Our compensation committee is responsible for:

- annually reviewing and approving corporate goals and objectives relevant to 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;
- 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 compensation committee report required by SEC rules, which is included immediately following the “Compensation Discussion and Analysis” section appearing below.

Our compensation committee has retained Towers Watson, an independent, nationally recognized compensation consultant, to provide assistance from time to time in reviewing the compensation paid to our senior management team, which is comprised of our named executive officers and all of our vice presidents, and our non-employee directors, and to review our compensation programs and practices generally. In 2011, our compensation committee engaged Towers Watson to assist it in assessing competitive compensation levels and pay mix (base salary, target annual incentive award and long-term incentive compensation) for our chief executive officer based upon comparison with our 2010 peer group. In connection with its work for the compensation committee during 2011, Towers Watson also assisted in determining our 2011 peer group, which, in addition to our 2010 peer group, is described below under the heading “Compensation Discussion and Analysis.” Towers Watson prepared reports and provided guidance to the compensation committee on items specific to share ownership guidelines and 2011 merit budgets within our industry.

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. Through April 1, 2011, the members of our compensation committee were Vicki L. Sato, Ph.D. (Chair) and Dr. Paul and Mr. Starr. Dr. Sato retired from our board of directors in April 2011. We believe that each member of our compensation committee satisfies the requirements for membership, including independence, as established by NASDAQ.

Our compensation committee met six times during 2011, either in person or by teleconference.

#### ***Nominating and Corporate Governance Committee***

Our nominating and corporate governance committee is responsible for:

- 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 members of our nominating and corporate governance committee are Mr. Clarke (Chair) and Dr. Dzau. We believe that each member of our nominating and corporate governance committee satisfies the requirements for membership, including independence, as established by NASDAQ.

Our nominating and corporate governance committee met five times during 2011, either in person or by teleconference.

### ***Science and Technology Committee***

Our science and technology committee, which our board of directors established in June 2011, is responsible for:

- 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), Dzau, Paul and Schimmel. Our science and technology committee met once during 2011.

### **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, except where we are legally required by contract, law or otherwise to provide third parties with the right to nominate.

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 board to conclude that he or she should continue to serve as a member of our board. Our board believes 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.

### **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.



## 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](http://www.alnylam.com).

Our audit committee has reviewed our audited financial statements for the fiscal year ended December 31, 2011, 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, AU Section 380, *Communication 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, 2011. 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, 2012.

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>2011</u>	<u>2010</u>
Audit Fees(1) . . . . .	\$430,000	\$450,000
Audit-Related Fees(2) . . . . .	58,500	77,970
Tax Fees(3) . . . . .	86,210	217,500
All Other Fees(4) . . . . .	1,620	1,500
Total Fees . . . . .	<u>\$576,330</u>	<u>\$746,970</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 engagements.
- (2) “Audit-Related Fees” consist of fees for services related to accounting consultations and advice, including an audit of our government contracts.
- (3) “Tax Fees” consist of fees for tax compliance and tax consultations. Tax consultations relate primarily to an audit by the Internal Revenue Service for the 2008 and 2009 tax years.
- (4) “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 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 only 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 the 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 compensation of executive officers shall be reviewed and approved by our compensation committee in the manner specified in its charter.

## **Related Person Transactions**

### ***Agreements with Novartis***

Beginning in September 2005, we entered into the first of two strategic alliances with Novartis Pharma AG and its affiliate, Novartis Institutes for Biomedical Research, Inc., whom we refer to together as Novartis. At that time, we and Novartis executed a stock purchase agreement and an investor rights agreement, and ultimately executed a research collaboration and license agreement. The investor rights agreement provides Novartis with the right, subject to certain exceptions, generally to maintain its ownership percentage in us until the earlier of any sale by Novartis of shares of our common stock and the expiration or termination of the collaboration and license agreement, neither of which has yet occurred. At March 31, 2012, Novartis owned approximately 10.8% of our common stock. Under the terms of the investor rights agreement, we also granted Novartis demand and piggyback registration rights under the Securities Act of 1933, as amended, for the shares of our common stock held by Novartis, which rights remain in effect.

### ***Severance Arrangement***

In February 2011, Ms. Allen resigned as our vice president of finance and treasurer. In connection with her resignation, we and Ms. Allen entered into a separation agreement, under which we agreed to provide Ms. Allen with the following severance pay and benefits in consideration for her agreement to a general release and certain other standard terms and conditions: (i) severance in the gross amount of \$250,397 (an amount equal to 12 months of Ms. Allen's gross base salary); (ii) the full cost of any COBRA premiums until the earlier of March 21, 2012 and the date Ms. Allen became eligible for coverage under the group health plan of another employer; and (iii) a consulting agreement for a period of up to 12 months following her separation date under which she performed certain services at our request, the terms of which are described below. In connection with the execution of the separation agreement, we and Ms. Allen also entered into a consulting agreement. Under the consulting agreement, Ms. Allen provided consulting services to us through March 21, 2012 with respect to general accounting, operating budget, public company financial reporting and treasury-related activities.

Other than these transactions, 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 named executive officers 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 named executive officers. This section discusses the principles underlying our policies and decisions with respect to the compensation of our executive officers who are named in the Summary Compensation Table below, or our "named executive officers," and all material factors relevant to an analysis of these policies and decisions. Our named executive officers 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 Senior Vice President and Chief Medical Officer;
- Laurence E. Reid, Ph.D., our Senior Vice President and Chief Business Officer;
- Michael P. Mason, our Vice President of Finance and Treasurer; and
- Patricia L. Allen, our former Vice President of Finance and Treasurer, who resigned from that position in February 2011.

### ***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 named executive officers is fair, reasonable and competitive. Key elements of our compensation programs include:

- base salary;
- an annual cash incentive program tied to the achievement of pre-determined quantitative and qualitative corporate performance goals, which is only awarded if corporate performance against goals is at least 50% and under which awards are capped at a specified target percentage; and
- equity incentive compensation, which is provided to all employees, is typically subject to multi-year vesting based on continued service and is primarily in the form of stock options, the value of which depends on the performance of our common stock price, in order to align employee interests with those of our shareholders over the longer-term.

We target total compensation for our executives between the 50<sup>th</sup> and 75<sup>th</sup> percentiles of compensation paid to similarly situated executives of the companies in our peer group, however, because we have a pay-for-performance philosophy, actual compensation levels are sensitive to achievement of corporate and individual goals.

As described below, we achieved 68% of our corporate goals for 2011, and in particular, we achieved a substantial majority of our pipeline goals, allowing us in 2012 to focus our development efforts and advance our key programs in the clinic.

We do not have agreements with any of our executive officers pursuant to which they are eligible for potential payments upon termination or a change in control of Alnylam. In addition, we do not have any equity ownership guidelines for our executive officers or directors. However, during 2011, our chief executive officer and our president and chief operating officer purchased shares of our common stock on the open market at their own election. In addition, in connection with our registered public offering of common stock in February 2012, our chief executive officer, president and chief operating officer, senior vice president and chief business officer and certain of our directors purchased shares of our common stock from the underwriters for their own accounts.

#### ***Say-on-Pay Feedback from Stockholders***

In 2011, we submitted our executive compensation program to an advisory vote of our stockholders and it received the support of over 98% of the total votes cast at our 2011 annual meeting of stockholders. In addition, 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. Annually, our compensation committee intends to review the results of the advisory vote and will consider this feedback as it completes its annual review of each pay element and the total compensation packages for our named executive officers with respect to the next fiscal year.

#### ***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.

#### ***Elements of Total Compensation and Relationship to Performance***

Key elements of our compensation programs include:

- base salary;
- an annual cash incentive program; and
- equity incentive compensation, which is typically subject to multi-year vesting based on continued service and is primarily in the form of stock options, the value of which depends on the performance of our common stock price.

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. Consistent with our compensation philosophy, we target salaries between the 50<sup>th</sup> and 60<sup>th</sup> percentiles of the range of salaries of a group of similarly sized and positioned national and regional companies in the biopharmaceutical and biotechnology industries, which we refer to as our peer group. Our 2011 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. Our compensation committee also considered each executive

officer's contributions to achievement of the 2011 corporate goals under the 2011 annual incentive program. We awarded cash incentive payments to our named executive officers and the other members of our senior management team under our 2011 annual incentive program, which is described in more detail below. In 2012, our named executive officers will be eligible to receive cash awards under our 2012 annual incentive program. We typically grant stock options to our executive officers upon commencement of their employment, annually following a review of their individual performance and in connection with a promotion. With the exception of our 2011 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.

***Determining and Setting Executive Compensation***

We develop our compensation programs after reviewing publicly available compensation data and subscription survey data for our peer group, as described below.

***Defining and Comparing Compensation to Market Benchmarks***

In evaluating the total compensation of our named executive officers, 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 based 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 2010, referred to as our 2010 peer group, was comprised of the following companies:

Acorda Therapeutics, Inc.	Isis Pharmaceuticals, Inc.	Seattle Genetics, Inc.
Alexion Pharmaceuticals, Inc.	Lexicon Pharmaceuticals, Inc.	Theravance, Inc.
Alkermes, Inc.	Momenta Pharmaceuticals, Inc.	The Medicines Company
Cubist Pharmaceuticals, Inc.	Onyx Pharmaceuticals, Inc.	XenoPort, Inc.
Exelixis, Inc.	PDL BioPharma, Inc.	ZymoGenetics, Inc.
Human Genome Sciences, Inc.	Regeneron Pharmaceuticals, Inc.	
Incyte Corporation	Rigel Pharmaceuticals, Inc.	

During 2011, our compensation committee engaged Towers Watson for assistance in reviewing the compensation of our chief executive officer. This review was conducted mid-year and was based upon data from our 2010 peer group. The results of this review of the compensation of our chief executive officer is described in detail below under the heading "Base Salary."

In addition, during the second half of 2011, using the same criteria as set forth above and with information provided by Towers Watson, the compensation committee approved our peer group for 2011, referred to as our 2011 peer group, which was comprised of the following companies:

Ardea Biosciences, Inc.	Immunogen, Inc.	Neurocrine Biosciences, Inc.
ARIAD Pharmaceuticals, Inc.	Incyte Corporation	Rigel Pharmaceuticals, Inc.
ArQule, Inc.	Infinity Pharmaceuticals, Inc.	Sangamo Biosciences, Inc.
AVEO Pharmaceuticals, Inc.	Isis Pharmaceuticals, Inc.	Seattle Genetics, Inc.
Exelixis, Inc.	Lexicon Pharmaceuticals, Inc.	Targacept, Inc.
Geron Corporation	Micromet, Inc.	
Idenix Pharmaceuticals, Inc.	Momenta Pharmaceuticals, Inc.	

The peer group for our named executive officers is approved by our compensation committee annually.

We believe that the compensation practices of our 2011 peer group provided us with appropriate compensation benchmarks for evaluating the compensation of our named executive officers at the end of 2011. Notwithstanding the similarities of the 2011 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 2011, our compensation committee generally targeted compensation for our executive officers as follows:

- base salaries between the 50<sup>th</sup> and 60<sup>th</sup> percentiles of the salaries in our 2011 peer group;
- annual cash incentive award opportunities at or below the 50<sup>th</sup> percentile of our 2011 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 75<sup>th</sup> percentile of our peer 2011 group; and
- total compensation for our executives between the 50<sup>th</sup> and 75<sup>th</sup> percentiles of compensation paid to similarly situated executives of the companies in our 2011 peer group.

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 an early-stage biopharmaceutical company, such as Alnylam. Instead, the specific performance factors our compensation committee considers when determining the compensation of our named executive officers 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 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 named executive officer's annual performance against established corporate goals, as well as each individual executive officer'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 2011, the individual objectives for our executive officers were the same as the corporate goals. Individual objectives for 2011 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. Our compensation committee approved the individual objectives for each of the remaining members of our senior management team. Any merit increases in base salary and any annual stock option awards or cash awards made under our 2011 annual incentive program were based on the achievement of these corporate and individual performance goals and objectives. In 2011, our compensation committee established the maximum cash bonus opportunity for each member of our senior management team under the 2011 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 executive officer's individual performance, as compared to the corporate goals and, as applicable, the individual objectives 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 board 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. The board may also review the compensation of our executive officers 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 2011 annual incentive program were paid in January 2012.

### ***Base Salary***

We provide base salaries to our named executive officers 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 50<sup>th</sup> and 60<sup>th</sup> 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 determined by our compensation committee based upon a written summary of the executive officer's



performance and 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, at the conclusion of 2010, notwithstanding the company's and Dr. Maraganore's accomplishments during the year, our compensation committee decided to accept the request by Dr. Maraganore that his base salary for 2011 remain at the same level as 2010, subject to further review during 2011. Dr. Maraganore had elected not to take an increase in his base salary from January 2008 through January 2011. In June 2011, our compensation committee reviewed Dr. Maraganore's overall compensation and determined that Dr. Maraganore's cash compensation was generally below the target percentile of the base salaries of the chief executive officers in our 2010 peer group. Based on the desire of our compensation committee to provide a competitive base salary between the 50<sup>th</sup> and 60<sup>th</sup> percentiles of our 2010 peer group, our compensation committee approved a base salary increase for Dr. Maraganore from \$525,000 to \$650,000 to better align his annual salary with our compensation philosophy.

In June 2011, Dr. Vaishnav was promoted to the position of senior vice president and chief medical officer. Dr. Vaishnav previously served as our senior vice president, clinical research since December 2008. In connection with Dr. Vaishnav's promotion, his annual base salary was increased from \$359,805 to \$385,000.

At the end of 2011, our compensation committee approved a merit increase in base salary for 2012 for each of our named executive officers, based upon the company's performance against the corporate goals, as well as each executive officer'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 named executive officers:

<u>Name</u>	<u>Base Salary Adjustments</u>		
	<u>2011 Base Salary</u>	<u>2012 Base Salary</u>	<u>Increase (%)</u>
John M. Maraganore, Ph.D. . . . . .	\$650,000	\$669,500	3.0%
Barry E. Greene . . . . .	\$436,800	\$449,904	3.0%
Akshay K. Vaishnav, M.D., Ph.D. . . . . .	\$385,000	\$396,550	3.0%
Laurence Reid, Ph.D. . . . . .	\$328,811	\$338,675	3.0%
Michael P. Mason* . . . . .	\$240,000	\$247,200	3.0%

\* In February 2011, Patricia L. Allen resigned from her position as vice president of finance and treasurer and Mr. Mason was appointed as our vice president of finance and treasurer. Mr. Mason previously served as our senior director of finance and controller.

***2011 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 2011, our compensation committee approved the annual incentive program for 2011. During 2010, our compensation committee reviewed our annual incentive program relative to marketplace norms and practices by comparing current proxy statement data from our 2010 peer group and compensation survey data. This review was intended to evaluate the competitiveness of our executive compensation through comparisons with our 2010 peer group, as well as survey data from the 2010 Radford Global Life Sciences Survey, and determine whether changes to our compensation programs, in particular our annual incentive program, were needed. Based upon this review, our compensation committee modified the terms of our annual cash incentive program to increase annual cash incentive award opportunities for 2011 from at or below the 25<sup>th</sup> percentile to the 50<sup>th</sup> percentile of our peer group. Each bonus award for 2011 ranged from 0% to 100% of the individual's target award, thus making each individual's target award the maximum bonus award achievable in 2011.

The table below shows the target award under the incentive program as a percentage of each executive officer's annual base salary in each of 2010 and 2011, as well as the maximum cash award opportunity in dollars for 2011 and the actual cash bonus payments to our named executive officers for 2011 performance, which were paid in January 2012. The details regarding the determination for these cash bonus awards is discussed below.

**2011 Annual Incentive Program**

<u>Name</u>	<u>2010 Target Award (% of Base Salary)</u>	<u>2011 Target Award (% of Base Salary)</u>	<u>2011 Maximum Award Opportunity (\$)</u>	<u>2011 Actual Bonus Payment (\$)</u>
John M. Maraganore, Ph.D. . . . . .	50%	60%	\$390,000	\$229,868
Barry E. Greene . . . . .	30%	50%	\$218,400	\$128,726
Akshay K. Vaishnav, M.D., Ph.D. . . . .	20%	35%	\$134,750	\$105,118
Laurence E. Reid, Ph.D. . . . .	20%	35%	\$115,084	\$ 64,839
Michael P. Mason* . . . . .	12%	30%	\$ 72,000	\$ 43,685

\* In February 2011, Ms. Allen resigned and Mr. Mason was appointed as our vice president of finance and treasurer. Mr. Mason previously served as our senior director of finance and controller.

Under the 2011 annual incentive program, bonus awards were determined by first establishing a bonus pool. The bonus pool was 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 2011 corporate goals. Under the 2011 annual incentive program, the corporate performance level on which such modifier was based could range from 0% to 100%, provided that if the corporate performance level for 2011 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 based upon a consideration of each plan participant's level within the organization, base salary and, with respect to all non-executive plan participants, performance against individual goals. Bonus awards for our executive officers were based upon achievement of our corporate goals. Our compensation committee also considered each executive officer's individual contributions to achievement of the 2011 corporate goals as permitted under the 2011 annual incentive program. In addition, our compensation committee had the discretion under the 2011 annual incentive program to adjust upward or downward any bonus award and/or the bonus pool as it deemed appropriate.

In making its determination regarding awards under the 2011 annual incentive program, our compensation committee considered our success against our 2011 corporate goals. The 2011 corporate goals approved by our board, the relative weightings assigned to each goal at the beginning of the year, our actual achievement during the performance period as a percentage of target and the weighted performance against these corporate goals for 2011, as approved by our compensation committee and our full board, were as follows:

<b>2011 Corporate Goals</b>	<b>Relative Weighting</b>	<b>Actual Achievement For 2011 (as a % of target)</b>	<b>Weighted Performance</b>
• Achieve “Alnylam 5x15” pipeline goals, including:			
○ Complete Phase I clinical study of ALN-TTR01 in patients with ATTR and report data;	15%	83%	12.5%
○ File an IND or comparable foreign regulatory application for ALN-TTR02 for the treatment of ATTR;	15%	100%	15%
○ File an IND or comparable foreign regulatory application for ALN-PCS for the treatment of severe hypercholesterolemia;	15%	100%	15%
○ Advance ALN-HPN for the treatment of refractory anemia towards the clinic; and	5%	50%	2.5%
○ Identify and advance two additional RNAi therapeutic programs targeting genetically defined diseases.	5%	100%	5%
• Achieve “Partner-Based Program” pipeline goals, including:			
○ Advance ALN-RSV01 in a Phase IIB clinical trial for the treatment of RSV infection in adult lung transplant patients;	5%	100%	5%
○ Advance Phase I clinical development of ALN-VSP for the treatment of liver cancers and report additional data; seek partner for Phase II clinical development; and	5%	100%	5%
○ Advance ALN-HTT for the treatment of Huntington’s disease towards the clinic.	5%	100%	5%
• Form additional strategic alliances and new business ventures.	10%	30%	3%
• Achieve a year-end cash balance of greater than \$275 million.	20%	0%	0%
<b>Approved 2011 Corporate Performance Level</b>	<b>100%</b>		<b>68%</b>

In determining 2011 annual incentive awards for our executive officers, our compensation committee also considered each executive officer’s contribution to the achievement of our 2011 corporate goals, as permitted under our 2011 annual incentive program. Following a review of each executive officer’s individual performance relative to our corporate goals, our compensation committee determined to adjust the award level for each of Drs. Vaishnaw and Reid and Mr. Mason, from 68% to 90%, 65% and 70%, respectively, as permitted under the 2011 annual incentive program. Our compensation committee set the award levels for each of Dr. Maraganore and Mr. Greene at 68%.

### ***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 term 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.

In addition, the stock options granted to our executive officers 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. Typically, the stock options we grant to our executives have a ten-year term and 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. Vesting 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.

The number of stock options granted to our named executive officers during 2011, and the value of those awards determined in accordance with Financial Accounting Standards Board, or FASB, Accounting Standard Codification, or ASC, Topic 718, are shown in the 2011 Grants of Plan-Based Awards table below.

We do not have any equity ownership guidelines for our executive officers or directors. However, during 2011, our chief executive officer and our president and chief operating officer purchased shares of our common stock on the open market at their own election. In addition, in connection with our registered public offering of common stock in February 2012, our chief executive officer, president and chief operating officer, senior vice president and chief business officer and certain of our directors purchased shares of our common stock from the underwriters for their own accounts.

In connection with the annual review of our executive officer's individual performance and consistent with our compensation philosophy, our compensation committee approved annual equity incentive awards for our executive officers. The annual incentive awards granted to our named executive officers are set forth in the table below:

<b>2011 Annual Equity Incentive Awards</b>	
<b><u>Name</u></b>	<b><u>Option Award</u></b>
John M. Maraganore, Ph.D. . . . .	150,000
Barry E. Greene . . . . .	100,000
Akshay K. Vaishnav, M.D., Ph.D. . . . .	40,000
Laurence E. Reid, Ph.D. . . . .	40,000
Michael P. Mason* . . . . .	15,000

\* In February 2011, Ms. Allen resigned and Mr. Mason was appointed as our vice president of finance and treasurer. Mr. Mason previously served as our senior director of finance and controller. No annual equity incentive awards were granted to Ms. Allen for 2011.

Dr. Vaishnav received an additional stock option award to purchase 100,000 shares of common stock in connection with his promotion to senior vice president and chief medical officer in June 2011. Mr. Mason also received an additional stock option award to purchase 25,000 shares of common stock in connection with his promotion to vice president of finance and treasurer in February 2011.

In January 2012, our board of directors approved a strategic corporate restructuring pursuant to which we reduced our overall workforce by approximately 33%, to approximately 115 employees. The goal of the strategic corporate restructuring was to align our resources to focus on what we believe to be our highest value opportunities, including a focus on ALN-TTR and ALN-APC as our lead programs, while advancing other pipeline programs through existing alliances and new collaborations. 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 vest in full on the second-anniversary of the grant date, provided the individual is still an employee. Under this retention program, Drs. Vaishnav and Reid and Mr. Mason received restricted stock awards of 12,588 shares, 10,751 shares and 7,847 shares, respectively.

### ***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.

### ***Severance and Other Employment Arrangements***

Pursuant to the terms of his letter of employment, Dr. Reid is entitled to a supplemental signing bonus of \$25,000 on each anniversary of his date of hire beginning in 2011 and ending in 2014, provided he continues to be our employee on each such anniversary date.

In February 2011, Ms. Allen resigned as our vice president of finance and treasurer. In connection with her resignation, we and Ms. Allen entered into a separation agreement, under which we agreed to provide Ms. Allen with the following severance pay and benefits in consideration for her agreement to a general release and certain other standard terms and conditions: (i) severance in the gross amount of \$250,397 (an amount equal to 12 months of Ms. Allen's gross base salary for 2011); (ii) the full cost of any COBRA premiums until the earlier of March 2012 and the date Ms. Allen became eligible for coverage under the group health plan of another employer; and (iii) a consulting agreement for a period of up to 12 months following her separation date under which she performed certain services at our request, the terms of which are described below. In connection with the execution of the separation agreement, we and Ms. Allen also entered into a consulting agreement, which expired in March 2012.

### ***Cash Incentive Compensation for Our Named Executive Officers in 2012***

In March 2012, our compensation committee approved the annual incentive program for 2012. The terms of the 2012 annual incentive program are substantially the same as the 2011 annual incentive program. The substantive changes to the 2012 annual incentive program include an increase in the target award percentage for senior vice president level employees to 40% from 35% and the expansion of the plan to cover all remaining regular employees at a target award percentage of 7.5% of their annual base salary. The table below shows the target award under the incentive program as a percentage of each executive officer's annual base salary in 2012, as well as the maximum cash award opportunity in dollars for 2012.

**2012 Annual Incentive Program**

<u>Name</u>	<u>2012 Target Award (% of Base Salary)</u>	<u>2012 Maximum Award Opportunity (\$)</u>
John M. Maraganore, Ph.D. ....	60%	\$401,700
Barry E. Greene .....	50%	\$224,952
Akshay K. Vaishnav, M.D., Ph.D. ....	40%	\$158,620
Laurence E. Reid, Ph.D. ....	40%	\$135,470
Michael P. Mason .....	30%	\$ 74,160

Each bonus award for 2012 will range from 0% to 100% of the individual’s target award, thus making each individual’s target award the maximum bonus award achievable in 2012. In determining the 2012 cash incentive compensation for our named executive officers under the 2012 annual incentive program, our compensation committee will review the performance of the company during 2012. In particular, in making its determination, our compensation committee will consider our success against the following corporate goals:

<u>2012 Corporate Goals</u>	<u>Relative Weighting</u>
• Execute on “Alnylam 5x15” product strategy with a focus on ALN-TTR and ALN-APC, including:	
○ Accelerate clinical development of ALN-TTR program;	35%
• Complete ALN-TTR02 Phase I clinical trial in healthy volunteer subjects and report data;	
• Initiate ALN-TTR02 Phase I clinical trial in patients;	
• File an investigational new drug application, or IND, for ALN-TTRsc; and	
• Complete ALN-TTR01 Phase I clinical trial and report data.	
○ Advance ALN-APC program towards clinical studies in 2013.	20%
• Advance other pipeline programs, including;	10%
○ Complete ALN-PCS Phase I clinical trial;	
○ Advance additional “Alnylam 5x15” programs, including ALN-PCS, ALN-HPN and/or ALN-TMP with new partnerships;	
○ Report Phase IIb data for ALN-RSV;	
○ Seek a partner for ALN-VSP clinical program; and	
○ File an IND for ALN-HTT.	
• Form additional strategic alliances and new business ventures.	15%
• Achieve a year-end cash balance of greater than \$250 million.	20%
<b>Total</b>	<b>100%</b>

Our compensation committee retains the discretion under the 2012 annual incentive program to adjust upward or downward any bonus award and/or the bonus pool as it deems appropriate. We expect to pay any cash incentive awards made under our 2012 annual incentive program in January 2013.

**Compliance with IRS Code Section 162(m)**

Section 162(m) of the Internal Revenue Code of 1986, as amended, 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 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.

## **Stock Option Granting Practices**

### ***Delegation to Our Chief Executive Officer***

Currently, all of our employees, including our named executive officers, are eligible to participate in our Amended and Restated 2004 Stock Incentive Plan and our 2009 Stock Incentive Plan. All new full-time employees are granted stock options when they start employment and all continuing employees are eligible for stock option awards on an annual basis based on performance and upon promotions to positions of greater responsibility. Our compensation committee has delegated to Dr. Maraganore, our chief executive officer, the authority to make stock option awards under our Amended and Restated 2004 Stock Incentive Plan and our 2009 Stock Incentive Plan to new hires and in connection with promotions, other than grants to vice presidents and executive officers. The number of stock options he may grant to any one individual must be within the range specifically set by our board for these awards. The exercise price of such stock options must be equal to the closing price of our common stock on the NASDAQ Global Market on the date of grant. With respect to stock option awards to new hires other than vice presidents and executive officers, Dr. Maraganore approves the award prior to the employee's first date of employment with such authority and provides that the award is to be granted to the new hire on his or her first date of regular employment. With respect to stock option awards made in connection with promotions other than of vice presidents and executive officers, Dr. Maraganore approves the award in connection with such promotion and provides that the award is to be granted on the first business day of the calendar month following the date of such promotion; provided, however, that if such first business day is within ten calendar days of the date of such promotion, the grant date shall be the close of business on the first business day of the subsequent calendar month. Dr. Maraganore is required to maintain a list of stock options granted pursuant to such delegated authority and report to our compensation committee regarding such awards.

### **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, 2011, which was filed with the SEC on February 13, 2012.

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, 2011, 2010 and 2009 to our named executive officers.

### Summary Compensation Table

Name	Year	Salary (\$)	Bonus (\$)	Option Awards(8)(9) (\$)	Non-Equity Incentive Plan Compensation(10) (\$)	All Other Compensation(11) (\$)	Total (\$)
John M. Maraganore, Ph.D.(1) <i>Chief Executive Officer (principal executive officer)</i>	2011	595,076	—	561,330	229,868	11,911	1,398,185
	2010	525,000	—	727,695	60,900	15,084	1,328,679
	2009	525,000	—	924,483	86,625	11,288	1,547,396
Barry E. Greene <i>President and Chief Operating Officer</i>	2011	436,800	—	374,220	128,726	12,740	952,486
	2010	390,000	—	485,130	50,895	13,539	939,564
	2009	390,000	—	572,299	38,610	5,992	1,006,901
Akshay K. Vaishnav, M.D., Ph.D.(2) <i>Senior Vice President and Chief Medical Officer</i>	2011	373,932	—	637,828	105,118	6,474	1,123,352
	2010	352,750	—	145,539	32,735	6,624	537,648
	2009	340,000	—	396,207	35,700	6,037	777,944
Laurence E. Reid, Ph.D.(3) <i>Senior Vice President and Chief Business Officer</i>	2011	328,811	25,000(6)	149,688	64,839	5,850	574,188
	2010	189,583	50,000(7)	1,595,950	13,195	5,850	1,854,578
Michael P. Mason(4) <i>Vice President of Finance and Treasurer (principal financial officer)</i>	2011	238,061	—	202,656	43,685	6,158	490,560
Patricia L. Allen(5) <i>Former Vice President of Finance and Treasurer (former principal financial officer)</i>	2011	59,754	—	—	—	207,949(12)	267,703
	2010	245,487	—	121,283	21,357	5,839	393,966
	2009	227,830	—	220,115	19,138	5,797	472,880

- (1) Dr. Maraganore's salary included in the Summary Compensation Table with respect to 2011 differs from that set forth in the base salary table on page 31 because Dr. Maraganore's salary was increased in June 2011 in connection with the determination by our compensation committee that Dr. Maraganore's cash compensation was generally below the target percentile as compared to our 2010 peer group.
- (2) Dr. Vaishnav's salary included in the Summary Compensation Table with respect to 2011 differs from that set forth in the base salary table on page 31 because Dr. Vaishnav's salary was increased in June 2011 in connection with his promotion to senior vice president and chief medical officer. In connection with Dr. Vaishnav's promotion, he also received a stock option award to purchase 100,000 shares of our common stock.
- (3) Dr. Reid joined Alnylam as our senior vice president and chief business officer in June 2010. The amount reported as salary for 2010 represents the total salary earned by Dr. Reid during 2010 and is based upon an annual base salary of \$325,000. Dr. Reid was eligible to participate in the 2010 annual cash incentive program with a pro-rated maximum target award. In addition, Dr. Reid received an on-hire stock option award and a pro-rated 2010 annual stock option award.
- (4) Mr. Mason's salary included in the Summary Compensation Table with respect to 2011 differs from that set forth in the base salary table on page 31 because Mr. Mason's salary was increased in February 2011 in connection with his promotion to vice president of finance and treasurer. In connection with Mr. Mason's promotion, he also received a stock option award to purchase 25,000 shares of our common stock.



- (5) In February 2011, Ms. Allen resigned from her position as vice president of finance and treasurer. The amount reported as salary for 2011 represents the total salary earned by Ms. Allen during 2011 and is based upon an annual base salary of \$250,397.
- (6) Pursuant to the terms of his letter of employment, Dr. Reid is also entitled to a supplemental signing bonus of \$25,000 on each anniversary of his date of hire beginning in 2011 and ending in 2014, provided he continues to be our employee on each such anniversary date.
- (7) Pursuant to the terms of his letter of employment, we paid Dr. Reid a signing bonus of \$50,000 in July 2010. In the event that Dr. Reid either voluntarily terminates his employment with us, other than for good reason, or is terminated by us for cause, within the first 24 months of his employment with us, he will be required to repay the full amount of this signing bonus.
- (8) We did not grant any restricted stock awards or stock appreciation rights to our named executive officers in 2011, 2010 or 2009.
- (9) The amounts reported in the Option Awards column represent the aggregate grant date fair value for the fiscal years ended December 31, 2011, 2010 and 2009 of grants of stock options to each of the named executive officers, 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, 2011 included in our Annual Report on Form 10-K, filed with the SEC on February 13, 2012. To see the value actually received by the named executive officer in 2011, see the 2011 Option Exercises and Stock Vested table appearing below.

Details of each of the stock option awards reflected above can be found in the Outstanding Equity Awards at Fiscal Year-End for 2011 table appearing below.

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

- (10) In February 2011, our compensation committee authorized the implementation of the annual cash incentive program for fiscal year 2011. The 2011 annual cash incentive program is described above in the "Compensation Discussion and Analysis" under the heading "2011 Annual Incentive Program." In February 2010, our compensation committee authorized the implementation of the annual cash incentive program for fiscal year 2010. The 2010 annual cash incentive program was described in the "Compensation Discussion and Analysis" under the heading "2010 Annual Incentive Program," in our 2011 proxy statement, filed with the SEC on May 2, 2011. In February 2009, our compensation committee authorized the implementation of the annual cash incentive program for fiscal year 2009. The 2009 annual cash incentive program was described in the "Compensation Discussion and Analysis" under the heading "2009 Annual Incentive Program," in our 2010 proxy statement, filed with the SEC on April 20, 2010.

(11) The amounts reported in the All Other Compensation column reflect, for each named executive officer, with the exception of Ms. Allen for 2011, 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:

<u>Name</u>	<u>Year</u>	<u>Term Life Insurance Premiums Paid by Alnylam (\$)</u>	<u>Dollar Value of Alnylam Common Stock Contributed by Alnylam to the Executive's Account Under 401(k) Plan (\$)</u>	<u>Incremental Cost to Alnylam of All Perquisites and Other Personal Benefits (\$)</u>
John M. Maraganore, Ph.D. ....	2011	1,080	5,250	5,581(a)
<i>Chief Executive Officer</i>	2010	600	5,250	9,234(a)
	2009	600	5,250	5,438(a)
Barry E. Greene .....	2011	1,049	5,250	6,441(b)
<i>President and Chief Operating Officer</i>	2010	742	5,250	7,547(b)
	2009	742	5,250	—
Akshay K. Vaishnaw, M.D., Ph.D. ....	2011	864	5,250	360(c)
<i>Senior Vice President and Chief Medical Officer</i>	2010	847	5,250	527(c)
	2009	787	5,250	—
Laurence E. Reid, Ph.D. ....	2011	600	5,250	—
<i>Senior Vice President and Chief Business Officer</i>	2010	600	5,250	—
Michael P. Mason .....	2011	548	5,250	360(c)
<i>Vice President of Finance and Treasurer</i>				
Patricia L. Allen .....	2011	150	—	—
<i>Former Vice President of Finance and Treasurer</i>	2010	589	5,250	—
	2009	547	5,250	—

- (a) Represents amounts for travel and related expenses, paid by Alnylam, including \$2,239 in 2011, \$3,854 in 2010 and \$1,727 in 2009, 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 travel and related expenses, paid by Alnylam, including \$2,598 in 2011, and \$3,158 in 2010, 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.
- (c) Represents amounts for an employee fitness benefit, paid by Alnylam. For 2010, the amount for Dr. Vaishnaw also includes \$167 as a gross-up for the related tax liability in 2010, in connection with the Dr. Vaishnaw's subsidized fitness club membership.

(12) The amount reported in the All Other Compensation column for Ms. Allen for 2011 also includes severance payments in the amount of \$190,643, as well as COBRA premium payments in the amount of \$14,606, paid in 2011 in connection with Ms. Allen's February 2011 resignation. The amount reported in the All Other Compensation column for 2011 also includes \$2,550 paid to Ms. Allen during 2011 under a consulting agreement executed following Ms. Allen's resignation. Ms. Allen's severance agreement and the total severance payments she was entitled to receive thereunder, as well as the consulting agreement, are described in more detail above under the section entitled "Related Person Transactions — Severance Arrangement."

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, 2011 under any plan, contract, authorization or arrangement pursuant to which cash, securities, similar instruments or other property may be received:

### 2011 Grants of Plan-Based Awards

Name	Date of Grant (1)	Estimated Possible Payouts Under Non-Equity Incentive Plan Awards(2)			Option Awards: Number of Securities Underlying Options	Exercise or Base Price of Option Awards (\$)	Grant Date Fair Value of Option Awards(3) (\$)
		Threshold (\$)	Target (\$)	Maximum (\$)			
John M. Maraganore, Ph.D. . . . . . <i>Chief Executive Officer</i>	11/30/11	0	\$390,000	\$390,000	150,000	\$ 7.10	\$561,330
Barry E. Greene . . . . . <i>President and Chief Operating Officer</i>	11/30/11	0	\$218,400	\$218,400	100,000	\$ 7.10	\$374,220
Akshay K. Vaishnav, M.D., Ph.D. . . . . <i>Senior Vice President and Chief Medical Officer</i>	11/30/11 06/09/11	0 —	\$134,750 —	\$134,750 —	40,000 100,000	\$ 7.10 \$ 9.30	\$149,688 \$488,140
Laurence E. Reid, Ph.D. . . . . . <i>Senior Vice President and Chief Business Officer</i>	11/30/11	0	\$115,084	\$115,084	40,000	\$ 7.10	\$149,688
Michael P. Mason . . . . . <i>Vice President of Finance and Treasurer</i>	11/30/11 02/28/11	0 —	\$ 72,000 —	\$ 72,000 —	15,000 25,000	\$ 7.10 \$10.98	\$ 56,133 \$146,523
Patricia L. Allen . . . . . <i>Former Vice President of Finance and Treasurer</i>	—	—	—	—	—	—	—

- (1) None of our named executive officers received restricted stock awards or stock appreciation rights in 2011. Dr. Vaishnav was promoted to senior vice president and chief medical officer in June 2011 and Mr. Mason was promoted to vice president of finance and treasurer in February 2011 and each received a stock option award in connection with his promotion. The stock option awards reported in the 2011 Grants of Plan-Based Awards table were granted pursuant to our Amended and Restated 2004 Stock Incentive Plan. Our Amended and Restated 2004 Stock Incentive Plan provide 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 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.
- (2) The amounts shown in the threshold, target and maximum columns reflect the minimum, target and maximum amounts payable, respectively, under our 2011 annual cash incentive program, which is described above in the “Compensation Discussion and Analysis” under the heading “2011 Annual Incentive Program.” The actual amounts paid to each named executive officer can be found above in the Summary Compensation Table under the column entitled Non-Equity Incentive Plan Compensation.
- (3) The Grant Date Fair Value, computed in accordance with FASB ASC Topic 718, represents the value of stock options granted during the year.

The amounts reported in the 2011 Grants of Plan-Based Awards table for these stock option awards reflect our accounting expense and may not represent the amounts our named executive officers will actually realize from the awards. Whether, and to what extent, a named executive officer realizes value will depend on our actual operating performance, stock price fluctuations and that named executive officer’s continued employment.

## Information Relating to Equity Awards and Holdings

The following table sets forth information concerning stock options that have not been exercised for each of our named executive officers outstanding at December 31, 2011.

### Outstanding Equity Awards at Fiscal Year-End for 2011

Name	Option Awards			
	Number of Securities Underlying Unexercised Options Exercisable	Number of Securities Underlying Unexercised Options Unexercisable	Option Exercise Price (\$)	Option Expiration Date
John M. Maraganore, Ph.D. <i>Chief Executive Officer</i>	14,102(2)	—	0.475	02/26/2013
	4,515(3)	—	0.475	02/26/2013
	73,684(4)	—	0.95	01/06/2014
	105,263(5)	—	0.95	01/06/2014
	150,000(6)	—	6.78	12/07/2014
	250,000(7)	—	7.47	12/21/2014
	125,000(8)	—	13.12	12/07/2015
	125,000(9)	—	22.75	12/14/2016
	150,600(10)	—	31.39	12/12/2017
	114,990(11)	38,330(11)	21.35	12/09/2018
	52,500(12)	52,500(12)	16.43	12/10/2019
	37,500(13)	112,500(13)	9.14	12/08/2020
	—	150,000(19)	7.10	11/30/2021
Barry E. Greene <i>President and Chief Operating Officer</i>	48,058(14)	—	0.95	11/06/2013
	7,894(4)	—	0.95	01/06/2014
	14,928(15)	—	0.95	04/26/2014
	75,000(6)	—	6.78	12/07/2014
	75,000(8)	—	13.12	12/07/2015
	60,000(9)	—	22.75	12/14/2016
	80,000(10)	—	31.39	12/12/2017
	67,500(11)	22,500(11)	21.35	12/09/2018
	32,500(12)	32,500(12)	16.43	12/10/2019
	25,000(13)	75,000(13)	9.14	12/08/2020
Akshay K. Vaishnav, M.D., Ph.D. <i>Senior Vice President and Chief Medical Officer</i>	—	100,000(19)	7.10	11/30/2021
	40,625(16)	—	12.96	01/03/2016
	30,000(9)	—	22.75	12/14/2016
	32,750(10)	—	31.39	12/12/2017
	45,262(11)	15,088(11)	21.35	12/09/2018
	22,500(12)	22,500(12)	16.43	12/10/2019
	7,500(13)	22,500(13)	9.14	12/08/2020
	—	100,000(20)	9.30	06/09/2021
	—	40,000(19)	7.10	11/30/2021
Laurence E. Reid, Ph.D. <i>Senior Vice President and Chief Business Officer</i>	65,625(17)	109,375(17)	15.99	06/11/2020
	6,898(13)	20,691(13)	9.14	12/08/2020
	—	40,000(19)	7.10	11/30/2021
Michael P. Mason <i>Vice President of Finance and Treasurer</i>	8,733(8)	—	13.12	12/07/2015
	15,000(9)	—	22.75	12/14/2016
	14,200(10)	—	31.39	12/12/2017
	9,000(11)	3,000(11)	21.35	12/09/2018
	8,000(12)	8,000(12)	16.43	12/10/2019
	4,375(13)	13,125(13)	9.14	12/08/2020
	—	25,000(21)	10.98	02/28/2021
	—	15,000(19)	7.10	11/30/2021
Patricia L. Allen(1) <i>Former Vice President of Finance and Treasurer</i>	33,947(18)	—	0.95	05/04/2014
	16,750(6)	—	6.78	12/07/2014
	32,000(8)	—	13.12	12/07/2015
	20,000(9)	—	22.75	12/14/2016
	32,625(10)	—	31.39	12/12/2017
	23,747(11)	7,916(11)	21.35	12/09/2018
	12,500(12)	12,500(12)	16.43	12/10/2019
6,250(13)	18,750(13)	9.14	12/08/2020	

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- (1) In February 2011, Ms. Allen resigned from her position as vice president of finance and treasurer. Following her resignation, Ms. Allen continued to serve as our consultant through March 21, 2012, during which time her stock options continued to vest. Upon expiration of her consulting agreement, all unvested stock options were cancelled. Ms. Allen has three months following the termination of her consulting agreement to exercise any vested stock options, after which time all such outstanding stock options will be cancelled.
  - (2) These options were granted on February 26, 2003. The options vested as to 25% of the shares on December 9, 2003, and as to an additional 6.25% at the end of each successive three-month period thereafter until December 9, 2006.
  - (3) These options were granted on February 26, 2003 and vested as to 50% of the shares upon us entering into our first significant strategic alliance, which occurred on September 8, 2003. The remaining 50% of these shares vested in equal installments on the last day of each quarterly period thereafter over four years.
  - (4) These options were granted on January 6, 2004. The options vested 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 until January 6, 2008.
  - (5) These options were granted on January 6, 2004 and vested in full upon our initial public offering in May 2004.
  - (6) These options were granted on December 7, 2004. The options vested 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 until December 7, 2008.
  - (7) These options were granted on December 21, 2004 and, pursuant to the terms of the grant, vested in full upon the effective date of the Novartis research collaboration and license agreement, described above under “Related Person Transactions — Agreements with Novartis.”
  - (8) These options were granted on December 7, 2005. The options vested 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 until December 7, 2009.
  - (9) These options were granted on December 14, 2006. The options vested 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 until December 14, 2010.
  - (10) These options were granted on December 12, 2007. The options vested 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 until December 12, 2011.
  - (11) These options were granted on December 9, 2008. The options vested as to 25% of the shares on the first anniversary of the grant date and vest as to an additional 6.25% at the end of each successive three-month period thereafter until the fourth anniversary.
  - (12) These options were granted on December 10, 2009. The options vested as to 25% of the shares on the first anniversary of the grant date and vest as to an additional 6.25% at the end of each successive three-month period thereafter until the fourth anniversary.
  - (13) These options were granted on December 8, 2010. The options vested as to 25% of the shares on the first anniversary of the grant date and vest as to an additional 6.25% at the end of each successive three-month period thereafter until the fourth anniversary.
  - (14) These options were granted on November 6, 2003. The options vested 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 until November 6, 2007.
  - (15) These options were granted on April 26, 2004. The options vested 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 until April 26, 2008.

- (16) These options were granted on January 3, 2006. The options vested 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 until January 3, 2010.
- (17) These options were granted on June 11, 2010. The options vested as to 25% of the shares on the first anniversary of the grant date and vest as to an additional 6.25% at the end of each successive three-month period thereafter until the fourth anniversary.
- (18) These options were granted on May 4, 2004. The options vested 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 until May 4, 2008.
- (19) These options were granted on November 30, 2011. The options 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 until the fourth anniversary.
- (20) These options were granted on June 9, 2011. The options 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 until the fourth anniversary.
- (21) These options were granted on February 28, 2011. The options vested as to 25% of the shares on the first anniversary of the grant date and vest as to an additional 6.25% at the end of each successive three-month period thereafter until the fourth anniversary.

The following table sets forth information concerning the exercise of stock options during 2010 for each of our named executive officers.

**2011 Option Exercises and Stock Vested**

<u>Name</u>	<u>Option Awards</u>	
	<u>Number of Shares Acquired on Exercise</u>	<u>Value Realized on Exercise(1) (\$)</u>
John M. Maraganore, Ph.D. . . . . . <i>Chief Executive Officer</i>	—	—
Barry E. Greene . . . . . <i>President and Chief Operating Officer</i>	—	—
Akshay K. Vaishnaw, M.D., Ph.D. . . . . . <i>Senior Vice President and Chief Medical Officer</i>	—	—
Laurence E. Reid, Ph.D. . . . . . <i>Senior Vice President and Chief Business Officer</i>	—	—
Michael P. Mason . . . . . <i>Vice President of Finance and Treasurer</i>	—	—
Patricia L. Allen . . . . . <i>Former Vice President of Finance and Treasurer</i>	—	—

(1) The value realized on exercise is based on the sales price of the shares less the applicable option exercise price.

**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.

As described above in “Related Person Transactions,” in connection with Ms. Allen’s resignation, we agreed to provide Ms. Allen with the following severance pay and benefits: (i) severance in the gross amount of \$250,397 (an amount equal to 12 months of Ms. Allen’s gross base salary); (ii) the full cost of any COBRA

premiums until the earlier of March 21, 2012 and the date Ms. Allen became eligible for coverage under the group health plan of another employer; and (iii) a consulting agreement for a period of up to 12 months following her separation date under which she performed certain services at our request, the terms of which are described below. As contemplated by the separation agreement, we and Ms. Allen also entered into a consulting agreement. Under the consulting agreement, Ms. Allen provided consulting services to us through March 2012 with respect to general accounting, operating budget, public company financial reporting and treasury-related activities.

### 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 his letter of employment, we paid Dr. Reid a signing bonus of \$50,000 in July 2010. In the event that Dr. Reid either voluntarily terminates his employment with us, other than for good reason, or is terminated by us for cause, within the first 24 months of his employment with us, he will be required to repay the full amount of this signing bonus. Under his letter of employment, Dr. Reid is also entitled to a supplemental signing bonus of \$25,000 on each of the first, second, third and fourth anniversaries of his date of hire, provided he continues to be our employee on each such anniversary date.

### Securities Authorized for Issuance Under Equity Compensation Plans

The following table provides information as of December 31, 2011 about the securities authorized for issuance under our equity compensation plans, consisting of our 2002 Employee, Director and Consultant Stock Option Plan (the “2002 Plan”), our 2003 Employee, Director and Consultant Stock Option Plan (the “2003 Plan”), our Amended and Restated 2004 Stock Incentive Plan, our 2009 Stock Incentive Plan and our 2004 Employee Stock Purchase Plan, as amended. 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, Warrants and Rights	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights (\$)	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans <sup>(1)</sup>
Equity compensation plans approved by stockholders . . . . .	9,778,539	\$15.53	1,354,011
Equity compensation plans not approved by stockholders . . . . .	—	—	—
Total . . . . .	9,778,539	\$15.53	1,354,011

(1) Consists of 87,272 shares of our common stock available for future issuance under our Amended and Restated 2004 Stock Incentive Plan, 919,039 shares of our common stock available for future issuance under our 2009 Stock Incentive Plan and 347,700 shares of our common stock available for future issuance under our 2004 Employee Stock Purchase Plan, as amended. No shares of our common stock were available for issuance under our 2002 Plan or our 2003 Plan as of December 31, 2011.

**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.

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 stock option award to purchase 15,000 shares of common stock at each year’s annual meeting at which he or she served as a director, 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.

The following table sets forth information concerning the compensation of our current and former non-employee directors in 2011.

**Director Compensation**

<u>Name</u>	<u>Fees Earned or Paid in Cash (\$)</u>	<u>Option Awards (\$)(3)(4)(5)</u>	<u>All Other Compensation (\$)</u>	<u>Total (\$)</u>
Dennis A. Ausiello, M.D.(1) . . . . .	—	—	—	—
John K. Clarke . . . . .	60,000	73,221	—	133,221
Victor J. Dzau, M.D. . . . .	50,000	73,221	—	123,221
Marsha H. Fanucci . . . . .	50,000	73,221	—	123,221
Steven M. Paul, M.D. . . . .	57,500	73,221	—	130,721
Vicki L. Sato, Ph.D.(2) . . . . .	20,000	—	—	20,000
Paul R. Schimmel, Ph.D. . . . .	50,000	73,221	—	123,221
Phillip A. Sharp, Ph.D. . . . .	58,407	146,442	29,583(6)	234,432
Kevin P. Starr . . . . .	65,000	122,035	—	187,035

(1) Dr. Ausiello was elected to our board of directors in April 2012. Dr. Ausiello filled a vacancy created in 2011 upon the retirement of one of our directors. Under his employer’s policy, Dr. Ausiello is currently subject to limitations on the amount of compensation he can receive from us and is not permitted to receive any equity compensation for serving as a director. In the event Dr. Ausiello becomes eligible to receive equity compensation in the future, his compensation will be adjusted to be consistent with the non-employee



director compensation described above. Dr. Ausiello will also serve as a member of our scientific advisory board. He will not receive any additional compensation for such service, but will be reimbursed for reasonable travel and other related expenses incurred in connection with his attendance at scientific advisory board' meetings.

- (2) Dr. Sato retired from our board of directors in April 2011.
- (3) The amounts in this column reflect the aggregate grant date fair value for the fiscal year ended December 31, 2011, 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. 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, 2011 included in our Annual Report on Form 10-K, filed with the SEC on February 13, 2012. See footnote 5 below for the compensation expense of stock options granted under our equity plans to a director for non-board services and treated for accounting purposes as non-employee awards.
- (4) As of December 31, 2011, our non-employee directors held the following aggregate number of shares under outstanding stock options (representing unexercised option awards — both exercisable and unexercisable):

<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. ....	—(a)	—
John K. Clarke .....	95,000	—
Victor J. Dzau, M.D. ....	90,000	—
Marsha H. Fanucci .....	45,000	—
Steven M. Paul, M.D. ....	45,000	—
Vicki L. Sato, Ph.D. ....	— (b)	—
Paul R. Schimmel, Ph.D. ....	75,000	—
Phillip A. Sharp, Ph.D. ....	110,000	205,000(c)
Kevin P. Starr .....	217,631	—

- (a) Dr. Ausiello was elected to our board of directors in April 2012. Under his employer's policy, Dr. Ausiello is currently not permitted to receive any equity compensation for serving as a director.
- (b) Upon Dr. Sato's retirement in April 2011, all unvested stock options were cancelled. Dr. Sato had three months following her retirement date to exercise any vested stock options, after which time all such outstanding stock options were cancelled.
- (c) Dr. Sharp received these stock options between 2005 and 2010 in connection with his service on our scientific advisory board.
- (5) The number of shares underlying stock options granted to our non-employee directors for their service on our board during 2011 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 2011</u>	<u>Grant Date Fair Value of Stock Option Grants in 2011(c) \$</u>
Dennis A. Ausiello, M.D.(a) ....	—	—	—
John K. Clarke .....	06/09/2011	15,000	73,221
Victor J. Dzau, M.D. ....	06/09/2011	15,000	73,221
Marsha H. Fanucci .....	06/09/2011	15,000	73,221
Steven M. Paul, M.D. ....	06/09/2011	15,000	73,221
Vicki L. Sato, Ph.D.(b) ....	—	—	—
Paul R. Schimmel, Ph.D. ....	06/09/2011	15,000	73,221
Phillip A. Sharp, Ph.D. ....	06/09/2011	30,000	146,442
Kevin P. Starr .....	06/09/2011	25,000	122,035

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- (a) Dr. Ausiello was elected to our board of directors in April 2012. Under his employer's policy, Dr. Ausiello is currently not permitted to receive any equity compensation for serving as a director.
  - (b) Dr. Sato retired from our board of directors in April 2011.
  - (c) The Grant Date Fair Value computed in accordance with FASB ASC Topic 718 represents the value of stock options granted during 2011. The weighted-average grant date fair value per option was \$4.88. There can be no assurance that the Grant Date Fair Value computed in accordance with FASB ASC Topic 718 will ever be realized.
- (6) This amount reflects compensation paid to Dr. Sharp for service on our scientific advisory board during 2011.

**Compensation Committee Interlocks and Insider Participation**

During 2011, the members of our compensation committee were Drs. Paul and Schimmel and Mr. Starr, none of whom was a current or former officer or employee of Alnylam and none of whom had any related person transaction involving Alnylam.

## PROPOSAL 2 — ADVISORY VOTE ON EXECUTIVE COMPENSATION

We are providing our stockholders the opportunity to vote to approve, on an advisory, non-binding basis, the compensation of our named executive officers as disclosed in this proxy statement in accordance with the SEC's rules. This proposal, which is commonly referred to as "say-on-pay," is required by the 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, 2011.

As we describe in the "Compensation Discussion and Analysis," we maintain simple 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 recommends that you vote to approve the compensation of our named executive officers by voting "FOR" Proposal 2.**

### **PROPOSAL 3 — 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, 2012. 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 recommends a vote "FOR" the ratification of the appointment of PricewaterhouseCoopers LLP as our independent auditors for the fiscal year ending December 31, 2012.**

### **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 proxy material for the 2013 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 28, 2012. 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 March 23, 2013 (90 days prior to the first anniversary of our 2012 annual meeting of stockholders) and not before February 21, 2013 (120 days prior to the first anniversary of our 2012 annual meeting of stockholders). However, if the 2012 annual meeting of stockholders is advanced by more than 20 days, or delayed by more than 60 days, from the first anniversary of the 2012 annual meeting of stockholders, notice must be received not earlier than the 120<sup>th</sup> day prior to such annual meeting and not later than the close of business on the later of (1) the 90<sup>th</sup> day prior to such annual meeting and (2) the 10<sup>th</sup> 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 2012 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.**