

ALNYLAM PHARMACEUTICALS, INC.

Form DEF 14A

March 17, 2016

Table of Contents

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 14A

(Rule 14a-101)

INFORMATION REQUIRED IN PROXY STATEMENT

SCHEDULE 14A INFORMATION

Proxy Statement Pursuant to Section 14(a) of the Securities

Exchange Act of 1934

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

Preliminary Proxy Statement

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

Definitive Proxy Statement

Definitive Additional Materials

Soliciting Material Pursuant to §240.14a-12
ALNYLAM PHARMACEUTICALS, INC.

(Name of Registrant as Specified in Its Charter)

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

Payment of Filing Fee (Check the appropriate box):

No fee required.

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

(1) Title of each class of securities to which transaction applies:

(2) Aggregate number of securities to which transaction applies:

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

(4) Proposed maximum aggregate value of transaction:

(5) Total fee paid:

Fee paid previously with preliminary materials: _____

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

(1) Amount previously paid:

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

(3) Filing Party:

(4) Date Filed:

Table of Contents

NOTICE OF 2016 ANNUAL MEETING OF STOCKHOLDERS

Important Notice Regarding the Availability of Proxy Materials

for the Stockholder Meeting to Be Held on May 3, 2016

To our Stockholders:

NOTICE IS HEREBY GIVEN that the 2016 Annual Meeting of Stockholders of Alnylam Pharmaceuticals, Inc. will be held on Tuesday, May 3, 2016 at 8:00 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, as nominated by our board of directors, each to serve as a Class III director for a term ending in 2019, 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, 2016; and
4. To transact any other business that may properly come before the annual meeting or any adjournment or postponement thereof.

Your Vote Is Important

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

Stockholders of record at the close of business on March 11, 2016, the record date for the annual meeting, are entitled to notice of, and to vote at, the annual meeting or any adjournment or postponement thereof. Your vote is important regardless of the number of shares you own. All stockholders are cordially invited to attend the annual meeting in person. However, to assure your representation at the annual meeting, if you are a stockholder of record, please vote in one of these three ways:

Vote Over the Internet, by going to the website of our tabulator, Computershare Trust Company, N.A., at www.investorvote.com/ALNY and following the instructions for Internet voting shown on the enclosed proxy card;

Table of Contents

Vote by Telephone, by calling 1-800-652-VOTE (8683) and following the recorded instructions; or

Vote by Mail, by completing and signing your enclosed proxy card and mailing it in the enclosed postage prepaid envelope. If you vote over the Internet or by telephone, please do not mail your proxy.

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

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

By Order of the Board of Directors

John M. Maraganore, Ph.D.

Chief Executive Officer

Cambridge, Massachusetts

March 17, 2016

Table of Contents

PROXY STATEMENT

Table of Contents

| | |
|--|----|
| <u>PROXY STATEMENT SUMMARY</u> | 1 |
| <u>IMPORTANT INFORMATION ABOUT THE ANNUAL MEETING AND VOTING</u> | 3 |
| <u>CORPORATE GOVERNANCE</u> | 8 |
| <u>INFORMATION CONCERNING DIRECTOR NOMINEES ELECTION OF CLASS III DIRECTORS (PROPOSAL 1)</u> | 9 |
| <u>THE BOARD OF DIRECTORS AND ITS COMMITTEES</u> | 18 |
| <u>DIRECTOR COMPENSATION</u> | 27 |
| <u>SECURITIES OWNERSHIP</u> | 31 |
| <u>EXECUTIVE COMPENSATION</u> | 35 |
| <u>SAY-ON-PAY ADVISORY VOTE ON EXECUTIVE COMPENSATION (PROPOSAL 2)</u> | 62 |
| <u>RATIFICATION OF APPOINTMENT OF INDEPENDENT AUDITORS (PROPOSAL 3)</u> | 64 |
| <u>AUDIT INFORMATION</u> | 65 |
| <u>ADDITIONAL INFORMATION AND OTHER MATTERS</u> | 67 |

Table of Contents

PROXY STATEMENT SUMMARY

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 2016 Annual Meeting of Stockholders to be held on Tuesday, May 3, 2016 at 8:00 a.m., Eastern Time, at the offices of Alnylam Pharmaceuticals, Inc., 300 Third Street, Cambridge, Massachusetts, and at any adjournment or postponement thereof.

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

Our 2016 CEO Letter to Stockholders and Annual Report on Form 10-K for the fiscal year ended December 31, 2015 are being mailed with these proxy materials to all stockholders entitled to vote at the annual meeting. These proxy materials are expected to be first mailed to stockholders on or about March 21, 2016.

Important Notice Regarding the Availability of Proxy Materials for

the Annual Meeting of Stockholders to be Held on May 3, 2016

This proxy statement, our Annual Report on Form 10-K and our 2016 CEO Letter to Stockholders are available for viewing, printing and downloading at www.alnylam.com/AnnualMeeting.

A copy of our Annual Report on Form 10-K for the fiscal year ended December 31, 2015, as filed with the Securities and Exchange Commission, or SEC, on February 12, 2016, 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, 2015 are also available on the SEC's website at www.sec.gov.

Table of Contents**Voting Items and Board Recommendations**

| | | Board Recommendation |
|--------|---|---------------------------------|
| Item 1 | Election of Three (3) Class III Directors | FOR All Nominees |
| Item 2 | Say-on-Pay Advisory Vote on the Approval of Executive Compensation | FOR |
| Item 3 | Ratification of Independent Auditors | FOR |

On any other matters properly brought before the annual meeting, the named proxies shall vote in accordance with their best judgment.

Table of Contents

IMPORTANT INFORMATION ABOUT THE ANNUAL MEETING AND VOTING

Notice and Access

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 2016 annual meeting of stockholders to be held at our offices at 300 Third Street, Cambridge, Massachusetts on Tuesday, May 3, 2016 at 8:00 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.

Who Can Vote

To be entitled to vote, you must be a stockholder of record at the close of business on March 11, 2016, the record date for our annual meeting. As of the record date, there were 85,355,302 shares of our common stock outstanding.

If you were a stockholder of record on March 11, 2016, 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.

Voting Rights

Each outstanding share of our common stock will be entitled to one vote on each matter considered at the annual meeting.

Voting by Proxy

Alnylam's stockholders may vote their shares by telephone, over the Internet, or at the annual meeting. If you vote by telephone or over the Internet, you do not need to return your proxy card. The instructions for voting can be found on the Notice, on the website listed in the Notice, and, if you received one, on your proxy card. If you requested a printed version of the proxy card, you may also vote by mail.

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

Table of Contents

Revoking a Proxy

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:

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 May 2, 2016.

Sign a new proxy and submit it as instructed above. Only your latest dated proxy, received by Computershare not later than May 2, 2016, will be counted.

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.

Note that 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 above.

Discretionary Voting Authority

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

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

Effect of Broker Non-Votes and Abstentions

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.

Requirements for a Meeting Quorum

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

Table of Contents

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.

Vote Required to Approve Each Item on the Proxy***Proposal 1 - Election of Three (3) Class III Directors***

With respect to the election of directors (Proposal 1), each nominee presented in Proposal 1 must be elected by a majority of the votes cast in person or by proxy at the annual meeting. Nominees are elected by a majority vote for non-contested director elections. Because the number of nominees properly nominated for the annual meeting is the same as the number of directors to be elected, the election of directors at this annual meeting is non-contested. If the number of votes FOR a nominee exceeds the number of votes AGAINST (among votes properly cast in person or by proxy), then the nominee will be elected.

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 AGAINST 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. Similarly, a vote to ABSTAIN with respect to any nominee will have no impact on the outcome of the vote because abstention does not count as a vote cast. With respect to Proposal 1, you may:

- vote FOR all nominees;
- vote FOR one or more nominee(s) and AGAINST one or more of the other nominee(s);
- vote AGAINST all nominees; or
- ABSTAIN from voting for or against one or more nominee(s).

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 in person or by proxy at the annual meeting 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 voting 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

Table of Contents

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 in person or by proxy at the annual meeting 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 ending December 31, 2016 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 ending December 31, 2016.

Other Matters to be Voted On

The board of directors is not aware of any other issue or matter that may come before the annual meeting other than the election of three (3) Class III 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 best judgment on the matter.

Vote Results

Preliminary voting results will be announced at the annual meeting. We expect to report the voting results in a Current Report on Form 8-K within four business days following the adjournment of our annual meeting. If final voting results are not available to us in time to file a Current Report on Form 8-K within four business days after the annual meeting, we intend to file a Current Report on Form 8-K to publish preliminary results and, within four business days after the final results are known to us, to file an additional Current Report on Form 8-K to publish the final results.

Inspector of Election

The inspector of election and the tabulator of all proxies, ballots and voting tabulations that identify stockholders are independent and are not Alnylam employees.

Table of Contents

Cost of Soliciting Proxies

We will bear the cost of soliciting proxies. In addition to these proxy materials, our directors, officers and employees may solicit proxies by telephone, e-mail, facsimile and in person, without additional compensation. We have also retained Alliance Advisors LLC to solicit proxies by mail, courier, telephone and facsimile and to request brokers, custodians and fiduciaries to forward proxy soliciting materials to the owners of stock held in their names. For these services, we paid a fee of approximately \$9,000, plus expenses. We may reimburse brokers or persons holding stock in their names, or in the names of their nominees, for their expenses in sending proxies and proxy materials to beneficial owners.

Alnylam's 401(k) Savings Plan

You may give voting instructions for the number of shares of Alnylam common stock equal to the interest in Alnylam common stock credited to your 401(k) plan account as of the record date. To vote these shares, complete and return to Computershare the proxy card sent to you with this proxy statement. The 401(k) plan trustee will vote your shares according to your instructions. Only Computershare and its affiliates or agents will have access to your individual voting instructions. You may revoke previously given voting instructions by filing with the trustee either a written revocation or a properly completed and signed proxy bearing a later date. To vote your 401(k) plan shares, you must provide your voting instructions to Computershare before 11:59 p.m., Eastern Time, on April 29, 2016, 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.

Table of Contents

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.

Corporate Governance Materials

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

Corporate Governance Guidelines

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

- our board's principal responsibility is to oversee the management of Alnylam;
- a majority of the members of our board shall be independent directors;
- the independent directors meet regularly in executive session;
- directors have full and free access to management and, as necessary and appropriate, independent advisors;
- periodically, our board and its committees will conduct a self-evaluation to determine whether they are functioning effectively;
- our nominating and corporate governance committee will review annually the external commitments of our board members to evaluate any potential conflicts of interest; and
- our nominating and corporate governance committee will review all proposed external commitments of our executive officers to evaluate any potential conflicts of interest and confirm that external time commitments are appropriate relative to the executive's responsibilities to the company.

Table of Contents

**INFORMATION CONCERNING DIRECTOR NOMINEES ELECTION OF CLASS III DIRECTORS
(PROPOSAL 1)**

We have three classes of directors, Class I, Class II and Class III, and during 2015 the board increased the number of directors from ten to eleven. At each annual meeting, directors are elected for a term of three years to succeed those whose terms are expiring. The directors are divided as equally as possible among the three classes, and the terms of the three classes are staggered so that only one class is elected by stockholders annually.

At the annual meeting, we are proposing the election of three (3) Class III directors to hold office until the annual meeting of stockholders to be held in 2019, or until their respective successors have been duly elected and qualified. Upon the recommendation of the nominating and corporate governance committee of our board, the board has nominated Steven M. Paul, M.D., Amy W. Schulman and Kevin P. Starr for election to the board of directors as Class III directors. Dr. Paul, Ms. Schulman and Mr. Starr are currently serving as Class III directors. Dr. Paul has served as a director since 2010, Ms. Schulman has served as a director since 2014 and Mr. Starr has served as a director since 2003. The persons named in the enclosed proxy will vote to elect Dr. Paul, Ms. Schulman and Mr. Starr as Class III directors unless the proxy is marked otherwise. Dr. Paul, Ms. Schulman and Mr. Starr have indicated their willingness to serve on our board, but if any nominee should be unwilling or unable to serve, the person acting under the proxy may vote the proxy for a substitute nominee designated by our board, unless the board reduces the number of directors accordingly.

The nominees for Class III directors receiving a majority of the votes cast by stockholders entitled to vote thereon will be elected to serve on our board. As described more fully below under the heading **Majority Voting Policy**, we have adopted a resignation policy in the event a director nominee does not receive a majority of such votes. Abstentions and broker non-votes, if any, are not counted for purposes of this proposal. The Class III directors elected at this year's annual meeting will serve as members of our board until the 2019 annual meeting of stockholders, or until their respective successors are duly elected and qualified.

Board Recommendation

Our board of directors unanimously recommends a vote **FOR the election of
each of Dr. Paul, Ms. Schulman and Mr. Starr as a Class III director.**

Set forth below for each director, including the Class III director nominees, Dr. Paul, Ms. Schulman and Mr. Starr, is information as of March 1, 2016 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

Table of Contents

of directors. The duration of an individual's service on our board or as an officer described below includes service on the board of directors or as an officer of our predecessor company, which was also known as Alnylam Pharmaceuticals, Inc.

We have also included information below regarding each director's specific experience, qualifications, attributes and skills that led the nominating and corporate governance committee and our board of directors to the conclusion that he or she should serve as a director in light of our business and structure. Our board has determined that each director serving on our board of directors, with the exception of Dr. Maraganore, is independent within the meaning of the director independence standards of The NASDAQ Global Select Market and the Securities Exchange Act of 1934, as amended, or the Exchange Act. There are no family relationships among any of our directors or executive officers.

Class III Directors/Nominees to be elected at the 2016 annual meeting (terms expiring in 2019)

Steven M. Paul, M.D. Dr. Paul has served as a member of our board of directors since September 2010.

Committees:**Experience, Expertise and Qualifications**

Compensation Committee
(Chair)

Dr. Paul has served as the President and Chief Executive Officer of Voyager Therapeutics, Inc., a biotechnology company, since September 2014. Dr. Paul was the founding director of the Appel Alzheimer's Disease Research Institute, and is a Professor of Neurology (Neuroscience), Psychiatry and Pharmacology at Weill Cornell Medical College of Cornell University, and a Venture Partner at Third Rock Ventures, a venture capital firm.

Science and Technology
Committee

Director since: 2010**Age: 65**

Dr. Paul served for 17 years at Eli Lilly and Company, a pharmaceutical company, most recently as the Executive Vice President for Science and Technology and President of the Lilly Research Laboratories, a division of Eli Lilly and Company, from July 2003 to his retirement in February 2010. He is a member of the Institute of Medicine of the National Academy of Sciences and a fellow of the American Association for the Advancement of Science. Prior to joining Lilly, Dr. Paul served in several senior roles at the National Institute of Mental Health, including serving as the Scientific Director of the Intramural Research Program. Dr. Paul also serves as a director of Voyager Therapeutics, Inc. and SAGE Therapeutics, Inc., and formerly served as a director of the Sigma-Aldrich Corporation (which was acquired by Merck KGaA).

Key Contributions to the Board

Dr. Paul brings to our board more than 20 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 late stage clinical programs.

Table of Contents

Amy W. Schulman Ms. Schulman has served as a member of our board of directors since July 2014.

Committees: **Experience, Expertise and Qualifications**

Nominating and Corporate Governance Committee

Ms. Schulman joined Arisia Therapeutics, a biotechnology company, as Chief Executive Officer in August 2014, at the same time she began her role as a Venture Partner at Polaris Partners, a venture capital firm. In July 2015, Ms. Schulman co-founded Lyndra, Inc., where she serves as the Chief Executive Officer. Since July 2014, Ms. Schulman has also been a senior lecturer at Harvard Business School. Ms. Schulman was previously the Executive Vice President and General Counsel of Pfizer Inc., a global pharmaceutical company, from May 2008 to July 2014, where she also served as the Business Unit Lead for Pfizer’s Consumer Healthcare business from 2012 to 2013. Before joining Pfizer, she was a partner at DLA Piper. Ms. Schulman also serves as a director of BIND Therapeutics, Inc. and Blue Buffalo Pet Products, Inc.

Director since: 2014

Age: 55

Key Contributions to the Board

Ms. Schulman brings to our board a diverse background that includes legal, operational and commercial expertise. As our business grows and becomes more complex, Ms. Schulman’s unique qualifications will enable her to counsel us in a number of critical areas, including commercial strategy and capability building, as well as legal, regulatory and transactional considerations. In addition, her experience at Pfizer as Executive Sponsor of Pfizer’s Global Women’s Council, where she helped shape efforts to increase diversity and expand opportunities for both women and men across the company, will be an important resource as we grow our workforce to support the advancement of our clinical development pipeline and begin to build our commercial operations in preparation for the potential launch of our first product.

Kevin P. Starr Mr. Starr has served as a member of our board of directors since September 2003.

Committees: **Experience, Expertise and Qualifications**

Audit Committee (Chair)

Compensation Committee

Since April 2007, Mr. Starr has been a Partner of Third Rock Ventures, a venture capital firm, and since October 2015 has served as the Chairman and Interim Chief Executive Officer of Decibel Therapeutics, Inc., a portfolio company of Third Rock Ventures. From January 2003 to March 2007, Mr. Starr was an entrepreneur. From December 2001 to December 2002, Mr. Starr served as Chief Operating Officer of Millennium Pharmaceuticals, Inc., a biopharmaceutical company (now a wholly-owned subsidiary of Takeda Pharmaceutical Company Limited). He also served as Millennium’s Chief Financial Officer from December 1998 to December

Director since: 2003

Age: 53

2002. Mr. Starr also serves as a director of Ember Therapeutics, Inc. and SAGE Therapeutics, Inc., and formerly served as a director of Agios Pharmaceuticals, Inc., Global Blood Therapeutics, Inc. and Zafgen, Inc.

Page | 11

Table of Contents**Key Contributions to the Board**

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 the chair and a financial expert of our audit committee.

Class I Directors Whose Terms Expire in 2017**Michael W. Bonney**

Mr. Bonney has served as a member of our board of directors since December 2014 and was appointed chairman of our board in December 2015.

Chairman of the Board

Experience, Expertise and Qualifications**Committees:**

Audit Committee

Mr. Bonney has been a Partner at Third Rock Ventures, a venture capital firm, since January 2016. Mr. Bonney previously served as the Chief Executive Officer of Cubist Pharmaceuticals, Inc., a biopharmaceutical company (now a wholly-owned subsidiary of Merck & Co., Inc.), from June 2003 until his retirement in December 2014. From 2003 to 2012, Mr. Bonney served as President and Chief Executive Officer of Cubist and from January 2002 to June 2003, he served as Cubist's President and Chief Operating Officer. Mr. Bonney is also a trustee of Tekla Healthcare Investors and Tekla Life Sciences Investors, both publicly traded investment funds. In addition, Mr. Bonney serves as a director of Celgene Corporation and Global Blood Therapeutics, Inc., and formerly served as a director of NPS Pharmaceuticals, Inc. and Cubist.

Director since: 2014

Age: 57

Key Contributions to the Board

Mr. Bonney possesses over 30 years of operational, commercial and senior management experience in the biopharmaceutical industry, including his long tenure as the Chief Executive Officer and a director of Cubist. His breadth of experience and deep commercial background enable him to make significant contributions as chairman of our board as we continue to advance our late stage clinical programs and begin to build our commercial operations in preparation for the potential launch of our first product.

Table of Contents

John M. Maraganore, Ph.D.

Dr. Maraganore has served as our Chief Executive Officer and as a member of our board of directors since December 2002.

Chief Executive Officer

Experience, Expertise and Qualifications

Director since: 2002

Age: 53

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 (now a wholly-owned subsidiary of Takeda Pharmaceutical Company Limited). He also serves as a director of Agios Pharmaceuticals, Inc., bluebird bio, Inc. and the Biotechnology Industry Organization, a non-profit biotechnology trade organization, and formerly served as a director of Regulus Therapeutics Inc.

Key Contributions to the Board

Dr. Maraganore has over 25 years of experience in the biotechnology industry, bringing to our board critical scientific, research and development, and general management expertise. In prior roles, Dr. Maraganore has led the research, development and FDA approval and commercialization of important drug therapies, including Angiomax[®], an anticoagulant for patients undergoing coronary angioplasty procedures, of which Dr. Maraganore was an inventor. As a founder and leader of new businesses, he has developed high-performing organizations and created stockholder value while focusing on leading-edge scientific research. A true visionary, strategist and innovator, Dr. Maraganore's broad experience and personal passion bring an invaluable perspective to our board.

Paul R. Schimmel, Ph.D.

Dr. Schimmel is a scientific founder of Alnylam and has served as a member of our board of directors since June 2002.

Committees:

Compensation Committee

Science and Technology
Committee

Experience, Expertise and Qualifications

Dr. Schimmel has been the Ernest and Jean Hahn Professor of Molecular Biology and Chemistry and a member of the faculty 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. Dr. Schimmel also serves as a director of aTyr Pharma, Inc.

Director since: 2002

Age: 75

Key Contributions to the Board

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

Page | 13

Table of Contents

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.

Phillip A. Sharp, Ph.D.

Dr. Sharp is a scientific founder of Alnylam and has served as a member of our board of directors since June 2002.

Committees:

Science and Technology
Committee (Chair)

Nominating and Corporate
Governance Committee

Experience, Expertise and Qualifications

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 the American Academy of Arts and Sciences. Dr. Sharp also formerly served as a director of Biogen Inc., which he co-founded in 1978.

Director since: 2002

Age: 71

Key Contributions to the Board

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 also has strategic expertise based upon his role as a co-founder and former director of Biogen. 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.

Table of Contents

Class II Directors Whose Terms Expire in 2018

Dennis A. Ausiello, M.D. Dr. Ausiello has served as a member of our board of directors since April 2012.

Committees:

Experience, Expertise and Qualifications

Nominating and Corporate Governance Committee

Dr. Ausiello serves as the Director of the Center for Assessment Technology and Continuous Health (CATCH), Jackson Distinguished Professor of Clinical Medicine at Harvard Medical School and Physician-in-Chief Emeritus at Massachusetts General Hospital, and served as the Chief of Medicine at Massachusetts General Hospital from 1996 to April 2013. Dr. Ausiello was the President of the Association of American Physicians in 2006. He is a member of the Institute of Medicine of the National Academy of Sciences and the American Academy of Arts and Sciences. He also serves as a director of Pfizer Inc. and Seres Therapeutics, Inc.

Science and Technology Committee

Director since: 2012

Age: 70

Key Contributions to the Board

Dr. Ausiello's experience as a practicing physician, a scientist and a nationally recognized leader in academic medicine enable him to bring valuable insights to our board, particularly as we advance our clinical development pipeline and initiate additional clinical trials. In addition, Dr. Ausiello oversees a large research portfolio and an extensive research and education budget at Massachusetts General Hospital, giving him a valuable perspective on drug discovery and development. Through his previous work as the Chief of Medicine at Massachusetts General Hospital, Dr. Ausiello also brings leadership, oversight and finance experience to our board.

John K. Clarke

Mr. Clarke is a founder of Alnylam, has served as a member of our board of directors since June 2002 and served as the chairman of our board until December 2015.

Committees:

Experience, Expertise and Qualifications

Nominating and Corporate Governance Committee (Chair)

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 the chairman of the board of directors at aTyr Pharma, Inc. and formerly served as a director of Momenta Pharmaceuticals, Inc. and Verastem, Inc.

Director since: 2002

Age: 62

Key Contributions to the Board

Mr. Clarke has over 30 years of experience as a venture capitalist in the life sciences and healthcare industries, bringing a deep understanding to our board of the challenges of building a successful biotechnology company. He co-founded and served as interim chief executive officer of numerous successful private and publicly traded biotechnology companies. Mr. Clarke has a keen understanding of the interplay between management and the board and is well-versed in the current best practices in corporate governance, making him well-suited to serve as the chair of our nominating and corporate governance committee.

Table of Contents

Marsha H. Fanucci Ms. Fanucci has served as a member of our board of directors since December 2010.

Committees:

Experience, Expertise and Qualifications

Audit Committee
Nominating and Corporate
Governance Committee

Ms. Fanucci served as Senior Vice President and Chief Financial Officer of Millennium Pharmaceuticals, Inc., a biopharmaceutical company (now a wholly-owned subsidiary of Takeda Pharmaceutical Company Limited), 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 (now Sanofi Genzyme, the specialty care global business unit of Sanofi), from 1998 to 2000. Ms. Fanucci also serves as a director of Ironwood Pharmaceuticals, Inc. and Momenta Pharmaceuticals, Inc.

Director since: 2010

Age: 62

Key Contributions to the Board

Ms. Fanucci has substantial expertise with respect to public company and financial accounting matters, including over 25 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 late stage clinical programs, begin to build our commercial operations in preparation for the potential launch of our first product, and partner additional programs and technologies.

Table of Contents

David E.I. Pyott

Mr. Pyott has served as a member of our board of directors since December 2015.

Director since: 2015

Experience, Expertise and Qualifications

Age: 62

Mr. Pyott served as the Chief Executive Officer of Allergan, Inc., a global specialty pharmaceutical and medical device company, from January 1998 to March 2015 and as Allergan's Chairman from March 2001 until March 2015. Prior to Allergan, Mr. Pyott served as the Head of the Novartis Nutrition Division and as a member of the Executive Committee of Switzerland-based Novartis AG. Mr. Pyott also serves as the lead independent director at Avery Dennison Corporation, a director of BioMarin Pharmaceutical Inc. and a member of the Supervisory Board of Royal Philips in the Netherlands. Mr. Pyott formerly served as a director of Edwards Lifesciences Corporation.

Key Contributions to the Board

Mr. Pyott possesses over 30 years of operational, commercial and senior management experience, including his successful tenure as the Chief Executive Officer and Chairman at Allergan, where he transformed the company from a small eye care business to a global specialty pharmaceutical and medical device company. His in-depth knowledge of pharmaceutical growth and commercial expansion, combined with his entrepreneurial leadership experience in the healthcare industry, position him well to serve as a member of our board and make significant contributions as we continue to advance our late stage clinical programs and begin to build our commercial operations in preparation for the potential launch of our first product. Mr. Pyott's substantial public company governance experience from serving on the boards of several large public companies also makes him an asset to our board.

Table of Contents

THE BOARD OF DIRECTORS AND ITS COMMITTEES

Board of Directors Meetings and Attendance

Our board met five times during 2015 either in person or by teleconference. During 2015, 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, unless they have a conflict that cannot be resolved. All but two of our then-current directors attended the 2015 annual meeting of stockholders.

Board Determination of Independence

Under the NASDAQ Marketplace Rules, a director will qualify as an independent director if, in the opinion of our board, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. Our board has determined that none of Mses. Fanucci and Schulman, Drs. Ausiello, Paul, Schimmel and Sharp, and Messrs. Bonney, Clarke, Pyott and Starr have a relationship which would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each of these directors is an independent director as defined under NASDAQ Rule 5605(a)(2). Furthermore, the board has determined that each member of our audit committee, compensation committee and nominating and corporate governance committee is independent within the meaning of the applicable director independence standards of The NASDAQ Global Select Market and the Exchange Act. In making such determination, our board considered relationships, if any, that each non-employee director or family member of such director has with Alnylam, their beneficial ownership of our outstanding common stock and other facts and circumstances our board deemed relevant in determining their independence.

Role of the Board

Our business is managed under the direction of the board of directors. Management has primary responsibility for the day-to-day operations and affairs of our company and the role of our board is to provide independent oversight of management on behalf of our stockholders. In its oversight role, our board, as a whole and through its committees, is responsible for establishing broad corporate policies and reviewing our overall performance. Our board selects and provides for the succession of executive officers and, subject to stockholder election, directors. Our board also evaluates the performance of our chief executive officer. 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.

Table of Contents

The Board's Role in Risk Oversight

We face a number of risks in our business, including risks related to: pre-clinical and clinical research and development; manufacturing; regulatory reviews, approvals, policies and oversight; growth and capability expansion; preparations for potential commercial operations and our ability to obtain reimbursement for the new drugs we are developing if, and when, they gain regulatory approval; 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 and succession planning for our executive officers. The nominating and corporate governance committee assists the board in fulfilling its oversight responsibilities with respect to the management of risks associated with board organization, membership and structure, succession planning for our directors and corporate governance. The science and technology committee reviews and advises the board regarding risks arising from our discovery and development strategy and programs, and our regulatory and quality programs.

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. Bonney, an independent director, has served as our chairman since December 2015. Prior to that time, Mr. Clarke, also an independent director, served as our chairman from the founding of Alnylam in 2002. 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.

Table of Contents

Board Committees

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

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

Audit Committee

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

appointing, evaluating, retaining, approving the compensation of and, when necessary, terminating the engagement of our independent auditors;

taking appropriate action, or recommending that our board of directors take appropriate action, to oversee the independence of our independent auditors;

Table of Contents

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, including but not limited to our investment policy;

reviewing and approving matters related to tax planning;

establishing policies regarding hiring employees from our independent auditors and procedures for the receipt and retention of accounting-related complaints and concerns;

meeting independently with our independent auditors and management; and

preparing the annual audit committee report required by SEC rules, which is included below under the heading *Report of the Audit Committee*.

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

The current members of our audit committee are Messrs. Starr (Chair) and Bonney and Ms. Fanucci. Mr. Bonney replaced Mr. Clarke as a member of our audit committee in March 2015. We believe that each member of our audit committee satisfies the requirements for membership, including independence, under the NASDAQ Marketplace Rules and Rule 10A-3(b)(1) under the Exchange Act. Our board has determined that each member of the audit committee 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 2015, either in person or by teleconference.

Compensation Committee

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

annually reviewing and approving corporate goals and objectives relevant to the compensation of our executive officers;

reviewing and approving, or making recommendations to our board with respect to, the compensation of our chief executive officer and other executive officers;

overseeing an evaluation of our senior executives;

reviewing and making recommendations to our board with respect to management succession planning;

Table of Contents

overseeing and administering our stock-based compensation plans and 401(k) plan, and performing the duties imposed on the compensation committee by the terms of those plans;

reviewing and making recommendations to our board with respect to director compensation;

reviewing, and amending as necessary, our compensation philosophy and objectives, and reviewing annually and updating our peer group for compensation purposes;

reviewing and discussing any potential risks that could arise from our compensation policies and programs;

reviewing and discussing annually with management our Compensation Discussion and Analysis, which is included beginning on page 35 of this proxy statement; and

preparing the annual compensation committee report required by SEC rules, which is included immediately following the Compensation Discussion and Analysis section appearing below.

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

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

Our compensation committee met six times during 2015, either in person or by teleconference.

Compensation Committee Interlocks and Insider Participation

During fiscal year 2015, none of the members of our compensation committee was a current or former officer or employee of Alnylam and none had any related person transaction involving Alnylam.

During fiscal year 2015, no executive officer of our company served as: (i) a member of the compensation committee (or other committee of the board of directors performing equivalent functions or, in the absence of any such committee, the entire board of directors) of another entity, one of whose executive officers served on our compensation committee; (ii) a director of another entity, one of whose executive officers served on our compensation committee; or (iii) a member of the compensation committee (or other committee of the board of directors performing equivalent functions or, in the absence of any such committee, the entire board of directors) of another entity, one of whose executive officers served as a director of our company.

Table of Contents

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, and we have established, and our compensation committee endorses, several controls to address and mitigate compensation-related risk. We believe that any risks that may arise from our compensation policies and practices for our employees are not reasonably likely to have a material adverse effect on our company.

Nominating and Corporate Governance Committee

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

advising our board on board organization, structure and appropriate size;

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 the external commitments of our directors and executive officers to evaluate potential conflicts of interest or time commitment concerns;

developing and recommending to our board a set of corporate governance principles; and

overseeing the annual 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), Drs. Ausiello and Sharp and Ms. Fanucci and Schulman. We believe that each member of our nominating and corporate governance committee satisfies the requirements for membership, including independence, as established under the NASDAQ Marketplace Rules.

Our nominating and corporate governance committee met five times during 2015, either in person or by teleconference.

Science and Technology Committee

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

overseeing our scientific advisory board;

reviewing our overall scientific and research and development strategy;

Table of Contents

reviewing our research and development programs;

reviewing our regulatory and quality programs; and

reviewing cognate external scientific research, discoveries and commercial developments, as appropriate. The members of our science and technology committee are Drs. Sharp (Chair), Ausiello, Paul and Schimmel.

Our science and technology committee met three times during 2015, either in person or by teleconference.

Director Nomination Process

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

The process followed by our nominating and corporate governance committee to identify and evaluate director candidates includes requests to board members and others for recommendations, meetings from time to time to evaluate biographical information and background material relating to potential candidates, and interviews of selected candidates by members of the committee and our board.

Criteria and Diversity

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

The director nominee biographies appearing above under the heading "Information Concerning Director Nominees Election of Class III Directors (Proposal 1)" indicate each nominee's

Table of Contents

experience, qualifications, attributes and skills that led our nominating and corporate governance committee and board to conclude that he or she should continue to serve as a member of our board. Our nominating and corporate governance committee and board believe that each of the nominees has had substantial achievement in his or her professional and personal pursuits, and possesses the background, talents and experience that our board desires and that will contribute to the best interests of our company and to long-term stockholder value.

Stockholder Nominations

Stockholders may recommend individuals to our nominating and corporate governance committee for consideration as potential director candidates by submitting their names, together with appropriate biographical information and background materials and, if the stockholder is not a stockholder of record, a statement as to whether the stockholder or group of stockholders making the recommendation has beneficially owned more than 5% of our common stock for at least a year as of the date such recommendation is made, to the Nominating and Corporate Governance Committee, c/o Corporate Secretary, Alnylam Pharmaceuticals, Inc., 300 Third Street, Cambridge, Massachusetts 02142. Assuming that appropriate biographical and background material has been provided on a timely basis, the committee will evaluate stockholder-recommended candidates by following substantially the same process, and applying substantially the same criteria, as it follows for candidates submitted by others. Stockholders also have the right under our bylaws to nominate director candidates directly, without any action or recommendation on the part of the committee or the board, by following the procedures set forth below under the heading **Stockholder Proposals**.

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

Majority Voting Policy

Our bylaws provide that the vote required for the election of a director by the stockholders shall, except in a contested election, be the affirmative vote of a majority of the votes cast with respect to the election of such director nominee at a meeting of stockholders. In order to receive a majority of the votes cast, the number of shares voted **FOR** must exceed the number of votes **AGAINST**. In any non-contested election of directors, any incumbent director nominee who receives a greater number of votes cast against his or her election than in favor of his or her election shall, promptly following the certification of the stockholder vote, tender his or her resignation to the board. The board shall then decide, through a process managed by our nominating and corporate governance committee, whether to accept the resignation, or take other action. The board expects that a director whose resignation is under consideration shall abstain from participating in any decision regarding his or her resignation. In reaching its decision, the board may consider any factors deemed relevant, including the incumbent director nominee's qualifications, the incumbent director nominee's past and expected future contributions to the company, the overall composition of the board, and whether accepting the tendered resignation would cause us to fail to meet any applicable rule or regulation (including NASDAQ Global Select Market listing standards and federal securities laws). The board will publicly disclose its decision and rationale, within ninety (90) days following certification of the stockholder vote. If an incumbent director nominee's resignation is not accepted, he or she will continue to hold office until the next annual meeting and until his or her successor shall be duly elected and qualified. In such

Table of Contents

circumstances, the director will remain in his or her existing class and the election held at the next such annual meeting shall be whether to elect him or her to serve the remainder of his or her three-year term.

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.

Table of Contents**DIRECTOR COMPENSATION****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, with input from its independent compensation consultants. Our compensation committee compares our board compensation to compensation paid to non-employee directors of our peer group companies. Our compensation committee also considers the responsibilities we ask of our board members along with the amount of time required to perform those responsibilities. During 2015, our compensation committee, with the assistance of both Towers Watson and Radford, an Aon Hewitt Company, independent compensation consultants to the committee, performed a comprehensive review of director compensation. Following this review, the compensation committee and our board of directors determined to adjust the cash compensation paid to our non-employee directors to be more competitive with our peer group and to align the compensation of our committees with the evolving scope of responsibilities and expectations for such committees. In addition, based on the results of this review and the significant increase in our stock price from 2012 through mid-2015, the compensation committee and our board of directors determined to reduce the initial and annual stock option awards for non-employee directors.

The table below reflects the changes to director compensation that were approved during 2015. Increases in fees and new fees were pro-rated for 2015 based upon the date of approval and each non-employee director's committee appointments, if any.

| Compensation Type | Pre-Adjustment Amount | Post-Adjustment Amount |
|---|------------------------------|-------------------------------|
| Annual Retainer | \$50,000 | \$50,000 |
| Board Chair Fee | \$5,000 | \$30,000 |
| Committee Chair Fees: | | |
| Audit | \$15,000 | \$15,000 |
| Compensation | \$10,000 | \$10,000 |
| Nominating and Corporate Governance | \$5,000 | \$10,000 |
| Science and Technology | \$15,000 | \$10,000 |
| Committee Member Fees: | | |
| Audit | — | \$10,000 |
| Compensation | — | \$7,500 |
| Nominating and Corporate Governance | — | \$5,000 |
| Science and Technology | — | \$5,000 |
| Initial Stock Option Award (vests ratably in three annual installments) | 30,000 shares | 25,000 shares |
| Annual Stock Option Award (vests on one-year anniversary)* | 15,000 shares | 11,250 shares |
| Committee Chair Annual Stock Option Awards: | | |
| Audit | 10,000 shares | — |
| Science and Technology | 15,000 shares | — |

*Each non-employee director is generally eligible for an annual stock option award beginning in the sixth month following his or her election to our board.

Table of Contents

Our board may, in its discretion, increase or decrease the size of the stock option award made to a non-employee director upon election or in connection with the annual stock option award or make other option awards to our non-employee directors, subject to the limitations contained in our Amended and Restated 2009 Stock Incentive Plan (the Amended and Restated 2009 Plan) and described below. The exercise price of stock option awards is the fair market value of our common stock on the date of grant. We also reimburse our directors for reasonable travel and other related expenses incurred in connection with their service on our board.

In March 2016, based on the recommendation of our compensation committee, our board determined that it was in the best interests of the company and its stockholders to amend the Amended and Restated 2009 Plan to add a limit on the maximum number of shares of common stock that may be subject to initial or annual awards granted to non-employee directors. Specifically, in addition to the aggregate limit on grants to non-employee directors contained in the Amended and Restated 2009 Plan, the amendment provides the following:

the maximum number of shares of common stock subject to an award of stock options granted in connection with an individual non-employee director's initial appointment or election to the board shall be 50,000 (or 33,333 in the case of restricted stock or other full value awards); and

the maximum number of shares of common stock subject to an award of stock options granted in connection with an individual non-employee director's annual service on the board during any calendar year shall be 22,500 (or 15,000 in the case of restricted stock or other full value awards).

As indicated in the table above, our current practice is to make stock option awards covering fewer shares of common stock than permitted by these new limits, and the amendment of the Amended and Restated 2009 Plan to add these limits is not expected to change our current practice.

Table of Contents

The following table sets forth information concerning the compensation of our non-employee directors in 2015.

Director Compensation

| Name | Fees Earned or | Option Awards | All Other | Total |
|--------------------------|----------------|---------------|--------------|-----------|
| | Paid in | | Compensation | |
| | Cash | | | |
| | (\$) | (\$)(2)(3)(4) | (\$) | (\$) |
| Dennis A. Ausiello, M.D. | 57,500 | 858,385 | | 915,885 |
| Michael W. Bonney | 57,500 | 858,385 | | 915,885 |
| John K. Clarke | 82,500 | 858,385 | | 940,885 |
| Marsha H. Fanucci | 61,250 | 858,385 | | 919,635 |
| Steven M. Paul, M.D. | 63,750 | 858,385 | | 922,135 |
| David E.I. Pyott(1) | 1,902 | 1,305,775 | | 1,307,677 |
| Paul R. Schimmel, Ph.D. | 60,375 | 858,385 | | 918,760 |
| Amy W. Schulman | 52,500 | 858,385 | | 910,885 |
| Phillip A. Sharp, Ph.D. | 65,000 | 858,385 | 25,000(5) | 948,385 |
| Kevin P. Starr | 70,625 | 858,385 | | 929,010 |

- (1) Mr. Pyott was elected to our board in December 2015.
- (2) The amounts in this column reflect the aggregate grant date fair value for the fiscal year ended December 31, 2015, in accordance with Financial Accounting Standards Board, or FASB, Accounting Standards Codification, or 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. Whether, and to what extent, a non-employee director realizes value will depend on our actual operating performance, stock price fluctuations and the non-employee director's continued service on our board. 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, 2015 included in our Annual Report on Form 10-K, filed with the SEC on February 12, 2016.
- (3) At December 31, 2015, our non-employee directors held the following aggregate number of shares under outstanding stock options (representing unexercised option awards both exercisable and unexercisable):

Director Outstanding Stock Options for Service

| Name | Number of Shares | Number of Shares |
|------|---------------------------|------------------------|
| | Underlying | Underlying Outstanding |
| | Outstanding Stock Options | Stock Options for |
| | for Board Service(#) | Non-Board Service(#) |

| | | |
|--------------------------|---------|-----------|
| Dennis A. Ausiello, M.D. | 48,367 | |
| Michael W. Bonney | 41,250 | |
| John K. Clarke | 116,250 | |
| Marsha H. Fanucci | 101,250 | |
| Steven M. Paul, M.D. | 104,638 | |
| David E.I. Pyott | 25,000 | |
| Paul R. Schimmel, Ph.D. | 39,073 | |
| Amy W. Schulman | 41,250 | |
| Phillip A. Sharp, Ph.D. | 194,920 | 85,000(a) |
| Kevin P. Starr | 89,920 | |

- (a) Dr. Sharp received these stock options between 2007 and 2010 in connection with his service on our scientific advisory board.

Table of Contents

- (4) The number of shares underlying stock options granted to our non-employee directors for their service on our board during 2015 and the grant date fair value of such stock options are as follows:

Director Grants

| Name | Date of Grant | Number of Shares Underlying Stock Option Grants in 2015(#) | Grant Date Fair Value |
|--------------------------|---------------|--|--|
| | | | of Stock Option Grants in 2015 (\$)(b) |
| Dennis A. Ausiello, M.D. | 06/01/2015 | 11,250 | 858,385 |
| Michael W. Bonney | 06/01/2015 | 11,250 | 858,385 |
| John K. Clarke | 06/01/2015 | 11,250 | 858,385 |
| Marsha H. Fanucci | 06/01/2015 | 11,250 | 858,385 |
| Steven M. Paul, M.D. | 06/01/2015 | 11,250 | 858,385 |
| David E.I. Pyott(a) | 12/18/2015 | 25,000 | 1,305,775 |
| Paul R. Schimmel, Ph.D. | 06/01/2015 | 11,250 | 858,385 |
| Amy W. Schulman | 06/01/2015 | 11,250 | 858,385 |
| Phillip A. Sharp, Ph.D. | 06/01/2015 | 11,250 | 858,385 |
| Kevin P. Starr | 06/01/2015 | 11,250 | 858,385 |

- (a) Mr. Pyott was granted a stock option award upon his election to our board.
- (b) The grant date fair value computed in accordance with FASB ASC Topic 718 represents the value of stock options granted during 2015. The grant date fair value per option was \$76.30, with the exception of the grant to Mr. Pyott, for which the grant date fair value per option was \$52.23. There can be no assurance that the grant date fair value computed in accordance with FASB ASC Topic 718 will ever be realized. Whether, and to what extent, a non-employee director realizes value will depend on our actual operating performance, stock price fluctuations and the non-employee director's continued service on our board. The exercise price for the June 1, 2015 grants is \$131.21 and for the December 18, 2015 grant the exercise price is \$88.95.
- (5) This amount reflects compensation paid to Dr. Sharp for service as the chairman of our scientific advisory board during 2015.

Table of Contents**SECURITIES OWNERSHIP****OWNERSHIP OF OUR COMMON STOCK**

The following table sets forth information regarding beneficial ownership of our common stock as of January 29, 2016, except as otherwise set forth in the footnotes below, by:

- each person, or group of affiliated persons, known to us to be the beneficial owner of more than 5% of the outstanding shares of our common stock;
- each of our directors and director nominees;
- our principal executive officer, our principal financial officer and our three other most highly compensated executive officers who were serving as executive officers on December 31, 2015, whom, collectively, we refer to as our named executive officers or NEOs; and
- all of our directors and executive officers as a group.

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

| Name and Address of Beneficial Owner(1) | Number of Shares Owned(2) | Number of Shares Acquirable Within | | = | Total Beneficial Ownership(3) | Percentage of Common Stock Beneficially Owned(4) |
|---|------------------------------|---|-----|---|-------------------------------------|--|
| | | + 60 Days(5) | (6) | | | |
| Holders of more than 5% of our common stock | | | | | | |
| FMR LLC(4) | 12,710,356 | | | | 12,710,356 | 14.9 |
| Wellington Management Group LLP(5) | 10,657,484 | | | | 10,657,484 | 12.5 |
| Sanofi(6) | 10,051,603 | | | | 10,051,603 | 11.8 |
| Vanguard Specialized Funds-Vanguard Health Care Fund(7) | 7,583,610 | | | | 7,583,610 | 8.9 |
| The Vanguard Group(8) | 5,048,221 | | | | 5,048,221 | 5.9 |
| BlackRock, Inc.(9) | 4,290,930 | | | | 4,290,930 | 5.0 |

Table of Contents

| Name and Address of Beneficial Owner(1) | Number of Shares Owned(#) | + | Number of Shares Acquirable Within | | = | Total Beneficial Ownership(#) | Percentage of |
|---|------------------------------|---|---|--|---|-------------------------------------|---|
| | | | 60 Days(2) | | | | Common Stock Beneficially Owned(3) |
| Directors and Named Executive Officers | | | | | | | |
| Dennis A. Ausiello, M.D. | 3,500(10) | | 27,117 | | | 30,617 | * |
| Michael W. Bonney | 2,000(11) | | 10,000 | | | 12,000 | * |
| John K. Clarke | 8,891 | | 105,000 | | | 113,891 | * |
| Marsha H. Fanucci | | | 90,000 | | | 90,000 | * |
| John M. Maraganore, Ph.D. | 136,139(12) | | 1,028,598 | | | 1,164,737 | 1.4 |
| Steven M. Paul, M.D. | 1,000 | | 93,388 | | | 94,388 | * |
| David E.I. Pyott** | | | | | | | * |
| Paul R. Schimmel, Ph.D. | 306,996(13) | | 27,823 | | | 334,819 | * |
| Amy W. Schulman | | | 10,000 | | | 10,000 | * |
| Phillip A. Sharp, Ph.D. | 266,899(14) | | 268,670 | | | 535,569 | * |
| Kevin P. Starr | | | 78,670 | | | 78,670 | * |
| Barry E. Greene | 50,885(12) | | 646,405 | | | 697,290 | * |
| Akshay K. Vaishnaw, M.D., Ph.D. | 5,882(12) | | 248,066 | | | 253,948 | * |
| David-Alexandre C. Gros, M.D.** | | | | | | | * |
| Michael P. Mason | 2,036(12) | | 21,329 | | | 23,365 | * |
| All directors and executive officers as a group (16 persons) | 784,276(12) | | 2,703,801 | | | 3,488,077 | 4.0 |

* Less than 1% of our outstanding common stock.

** Joined Alnylam as a director or executive officer in 2015.

- (1) Unless otherwise indicated, the address of each stockholder is c/o Alnylam Pharmaceuticals, Inc., 300 Third Street, Cambridge, MA 02142.
- (2) Reflects shares issuable upon the exercise of stock options that are exercisable or will become exercisable within 60 days after January 29, 2016.
- (3) Percentage of beneficial ownership is based on 85,138,602 shares of our common stock outstanding as of January 29, 2016. Shares of common stock subject to options currently exercisable, or exercisable within 60 days of January 29, 2016, 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. 11 to a Schedule 13G filed by FMR LLC (previously known as FMR Corp.) with the SEC on February 12, 2016, as of December 31, 2015, 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 12,710,356 shares of our common stock, as a result of acting as an investment adviser to various investment companies registered under Section 8 of the Investment Company Act of 1940. Abigail P. Johnson, Director, Vice Chairman, Chief Executive Officer and President of FMR LLC and FMR LLC, through its control of Fidelity Management & Research Company and the funds, each has sole power to dispose of the 12,710,356 shares of our common stock owned by such funds. The ownership of one investment company, Fidelity Growth Company Fund, amounted to 4,887,141 shares of our common stock. Neither FMR LLC nor Abigail P. Johnson has the sole power to vote or direct the voting of the shares owned directly by such funds, which power resides with the funds' Boards of Trustees. Fidelity Management & Research Company carries out the voting of the shares under written guidelines established by the funds' Boards of Trustees. Various persons have the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, the shares of our common stock held by these funds. The address of FMR LLC is 245 Summer Street, Boston, MA 02210.

Table of Contents

- (5) According to Amendment No. 3 to a Schedule 13G filed by Wellington Management Group LLP (formerly Wellington Management Company, LLP), or Wellington Management, with the SEC on February 11, 2016, as of December 31, 2015, Wellington Management, in its capacity as an investment adviser, may be deemed to beneficially own 10,657,484 shares of our common stock which are held of record by clients of Wellington Management. Those clients have the right to receive, or the power to direct the receipt of, dividends from, or the proceeds from the sale of, such securities. Vanguard Health Care Fund is the only client known to have such right or power with respect to more than five percent of the reported shares. Wellington Management has shared power to vote or to direct the vote with respect to 2,296,876 shares of our common stock and shared power to dispose or to direct the disposition of 10,657,484 shares of our common stock. The address of Wellington Management is 280 Congress Street, Boston, MA 02210.
- (6) According to Amendment No. 1 to a Schedule 13G filed by Sanofi with the SEC on February 2, 2015, as of January 29, 2015, Sanofi was the record and beneficial owner of 10,051,603 shares of our common stock. In January 2014, we entered into a global, strategic collaboration with Sanofi Genzyme (formerly Genzyme Corporation), the specialty care global business unit of Sanofi, to discover, develop and commercialize RNAi therapeutics as genetic medicines to treat orphan diseases. Under our investor agreement, Sanofi Genzyme has the right at the beginning of each year to purchase a number of shares of our common stock based on the number of shares we issued during the previous year for compensation-related purposes. Sanofi Genzyme exercised this right to purchase directly from us 205,030 shares of our common stock in February 2016. This purchase allowed Sanofi Genzyme to maintain its ownership level of our common stock of approximately 12%. On February 12, 2016, Sanofi filed Amendment No. 2 to the Schedule 13G to reflect this purchase, reporting that as of February 1, 2016 Sanofi was the record and beneficial owner of 10,256,633 shares of our common stock. The information contained in the table above excludes these shares. The address of Sanofi is 54 Rue La Boétie, 75008 Paris (France).
- (7) According to Amendment No. 2 to a Schedule 13G filed by Vanguard Specialized Funds Vanguard Health Care Fund, or Vanguard, with the SEC on February 9, 2016, as of December 31, 2015, Vanguard has the sole power to vote the shares owned. The address of Vanguard is 100 Vanguard Blvd., Malvern, PA 19355.
- (8) According a Schedule 13G filed by The Vanguard Group with the SEC on February 10, 2016, as of December 31, 2015, The Vanguard Group has the sole power to vote 69,547 of the shares owned, shared power to vote 7,900 of the shares owned, sole dispositive power for 4,964,674 of the shares owned and shared dispositive power for 83,547 of the shares owned. Vanguard Fiduciary Trust Company and Vanguard Investments Australia, Ltd., wholly-owned subsidiaries of The Vanguard Group, are the beneficial owners of 49,847 and 53,400 of the shares owned, respectively. The address of The Vanguard Group is 100 Vanguard Blvd., Malvern, PA 19355.
- (9) According to a Schedule 13G filed by BlackRock, Inc. with the SEC on January 28, 2016, as of December 31, 2015, BlackRock, Inc. has the sole power to vote or direct the voting of 3,822,085 of the shares owned. 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 BlackRock, Inc. The address of BlackRock, Inc. is 55 East 52nd Street, New York, NY 10055.

- (10) Represents shares held in a trust, of which Dr. Ausiello's spouse is the trustee.
- (11) Represents shares held in a trust, of which Mr. Bonney is the trustee and over which he has sole voting and investment power.
- (12) Includes shares of our common stock contributed by Alnylam to our 401(k) plan for the benefit of our executive officers as of January 29, 2016: Dr. Maraganore, 2,750 shares; Mr. Greene, 2,621 shares; Dr. Vaishnav, 132 shares; Mr. Mason, 2,036 shares; and Ms. Keating, 48 shares.
- (13) Includes shares of our common stock held by the Paul Schimmel Prototype PSP, of which Dr. Schimmel is the trustee and over which he has sole voting and investment power, and the Schimmel Revocable Trust U/A dated 9/6/2000, of which Dr. Schimmel and his spouse are trustees and share voting and investment power.
- (14) Includes shares of our common stock held by the Phillip A. Sharp 2009 Grantor Retained Annuity Trust No. 3 and the Phillip A. Sharp 2008 Grantor Retained Annuity Trust No. 2, both of which Dr. Sharp is the trustee and over which he has sole voting and investment power.

Table of Contents

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 such persons complied on a timely basis with the filing requirements of Section 16(a) during the fiscal year ended December 31, 2015. However, on January 22, 2015, Sanofi, a holder of more than 10% of our common stock, acquired 196,251 shares of our common stock, which was subsequently reported on a Form 4 filed with the SEC on January 28, 2015.

Table of Contents**EXECUTIVE COMPENSATION****COMPENSATION DISCUSSION AND ANALYSIS****Executive Summary**

Our compensation committee is responsible for overseeing the total compensation of our senior management team, which is comprised of our named executive officers (NEOs), our senior vice presidents and all of our vice presidents. Our compensation committee formally approves the compensation of our NEOs and our senior vice presidents. This Compensation Discussion and Analysis describes the pay philosophy established for Alnylam's NEOs, the design of our compensation programs, the process used to examine performance in the context of executive pay decisions, and the results for each NEO named below.

| | |
|--|--|
| John M. Maraganore, Ph.D. | Chief Executive Officer (CEO) |
| Barry E. Greene | President and Chief Operating Officer |
| Akshay K. Vaishnav, M.D., Ph.D. | Executive Vice President, Research and Development and Chief Medical Officer |
| David-Alexandre C. Gros, M.D. | Senior Vice President, Chief Business Officer |
| Michael P. Mason | Vice President of Finance and Treasurer |

Although we describe our programs in the context of the NEOs, it is important to note that our programs generally have broad eligibility and therefore in most cases apply to employee populations outside the NEO group as well.

Stockholder Engagement and Feedback***2015 Say-on-Pay Results***

We pay careful attention to any feedback we receive from our stockholders about our executive compensation program. At our 2015 annual meeting, our say-on-pay proposal received support from 96% of the votes cast by our stockholders on the matter. Our compensation committee believes that the stockholders, through this advisory vote, generally endorsed our compensation philosophy and principles, thus, our compensation committee maintained the basic structure and design of our executive compensation program for fiscal year 2015. The board and the compensation committee are encouraged by the sustained level of stockholder support for our executive compensation program. Nevertheless, the company is committed to regular, ongoing engagement with stockholders to ensure that we continue to understand stockholder feedback about our compensation programs and other key matters of interest to them, and to enable us to take that feedback into consideration for our compensation decisions.

Over the past five years, our annual say-on-pay proposal has received consistent, overwhelming support from our stockholders, receiving over 90% of the votes cast by our stockholders on the matter each year.

Table of Contents

Alnylam maintains an ongoing commitment to corporate governance principles and strong performance orientation in our compensation program by proactively reviewing our policies and program design. In 2015, this included an evaluation of our incentive compensation, including annual incentive targets under our short-term cash incentive program and annual long-term incentive awards. In 2015, we also evaluated the total compensation of our chief executive officer relative to the compensation of chief executives in our 2015 peer group, described below, and made certain adjustments.

Best Practices in Compensation Governance

In addition to our performance-sensitive direct compensation structure, Alnylam has strong compensation governance practices. Our Compensation Philosophy is the foundation of those governance practices and is described below.

Compensation Governance**Alnylam's Policies and Practices****Pay-for-performance**

Alnylam's executive compensation program reinforces our performance driven culture. A significant percentage of our executive officer compensation is at-risk and may not be realized if corporate goals are not achieved.

Emphasis on long-term performance

Executive compensation should reflect alignment with the interests of stockholders. For 2015, 50% of our executive officer's annual equity awards were delivered in the form of performance-based stock option awards that vest in four equal installments based upon the achievement of four pre-specified clinical development or commercial events.

No guaranteed annual bonus or guaranteed salary increase**No automatic accelerated vesting of equity awards upon change-in-control**

Our Amended and Restated 2009 Plan does not allow for the automatic accelerated vesting of outstanding equity awards upon a change-in-control event.

Clawback policy

We have a clawback policy that covers our chief executive officer and our principal accounting officer, as well as all of our vice presidents. The policy provides that covered executives who engage in misconduct, including embezzlement, fraud, willful misconduct or breach of fiduciary duty, resulting in a financial restatement shall be required, upon the determination of our board of directors, to repay the company any excess proceeds from incentive compensation earned during the covered period.

No hedging

We do not provide our executive officers with guaranteed annual salary increases or multi-year guaranteed annual bonuses.

Alnylam's Insider Trading Policy expressly prohibits hedging company securities. Further, it does not contain waivers allowing for pre-clearance/pre-approval under certain situations.

Table of Contents

No executive employment agreements

We do not maintain employment agreements with any of our executive officers pursuant to which they would become eligible for potential severance payments upon termination or in connection with a change-in-control event.

No pledging

Alnylam's Insider Trading Policy expressly prohibits pledging of company securities. Further, it does not contain waivers allowing for pre-clearance/pre-approval under certain situations.

No excise tax or other tax gross-ups

We do not provide our executives with excise tax gross-up or other regular tax gross-ups.

Stock ownership guidelines

In 2015, we adopted stock ownership guidelines for our directors (including our chief executive officer) and for our president and chief operating officer.

Limited perquisites

Consistent with our pay-for-performance philosophy, we provide very limited perquisites to our executives. We do not provide personal perquisites such as personal use of aircraft.

Independent compensation consultant

Our compensation committee engages independent consultants to advise it on topics related to board and executive compensation.

Select Business Highlights For 2015

During 2015, we made significant progress on our clinical development and other corporate goals. Based on our performance in 2015, our board determined that we achieved 98.5% of our corporate goals for fiscal year 2015, including substantially all of our pipeline goals, which allows us to advance eight or more clinical-stage programs in 2016, including multiple programs in Phase 3.

SELECT BUSINESS HIGHLIGHTS FOR 2015

FINANCIAL RESULTS

Exceeded our year-end cash guidance, ending the year with \$1.28 billion in cash, cash equivalents and fixed-income marketable securities

Achieved 72.78% three-year total stockholder return (TSR) for fiscal years 2013-2015 and 57.03% five-year TSR for fiscal years 2011-2015. Our one-year TSR for 2015 was 2.95%.

BUSINESS AND STRATEGIC INITIATIVES

Achieved hiring and growth management goals

CLINICAL & REGULATORY ACHIEVEMENTS

Advanced robust pipeline ending 2015 with eight active clinical development programs

Continued advancement of our APOLLO Phase 3 study of patisiran in transthyretin-mediated amyloidosis, or ATTR amyloidosis, patients with familial amyloidotic polyneuropathy, or FAP, significantly exceeding our 2015 enrollment targets

Continued advancement of our patisiran Phase 2 open-label extension, or OLE, study, reporting positive 18-month clinical data

Table of Contents

Continued advancement of our ENDEAVOUR Phase 3 study with revusiran to evaluate the efficacy and safety of revusiran in ATTR amyloidosis patients with familial amyloidotic cardiomyopathy, or FAC

Reported initial data from our Phase 2 OLE study with revusiran to evaluate tolerability and clinical activity with long-term dosing for up to two years

Reported positive results from our Phase 1 trial of fitusiran (previously named ALN-AT3), in development for the treatment of hemophilia and rare bleeding disorders

Initiated a Phase 1/2 trial with ALN-CC5, which was conducted initially in healthy volunteers, and is now in patients with paroxysmal nocturnal hemoglobinuria, or PNH, and reported positive initial results from our ALN-CC5 Phase 1/2 trial

Initiated a Phase 1 trial with ALN-AS1 in acute intermittent porphyria, or AIP, patients, and reported positive initial results from our ALN-AS1 Phase 1 trial

Filed a Clinical Trial Application, or CTA, and initiated a Phase 1 trial in healthy volunteers for ALN-AAT, in development for the treatment of Alpha-1 antitrypsin deficiency

Completed a Phase 1 trial with ALN-PCSSc in healthy volunteers with elevated LDL-C at baseline and reported positive initial results

Compensation Philosophy

At Alnylam, our board believes a well-designed compensation program should align executive interests with the drivers of growth and stockholder returns, support achievement of the company's primary business goals, and attract and retain executives whose talents, expertise, leadership and contributions are expected to sustain growth in long-term stockholder value. Consequently, our board believes the substantial majority of NEO compensation should be performance-based and variable pay.

Significant Compensation Decisions for 2016

As noted above, our compensation committee regularly reviews Alnylam's policies and program design. In 2015, this included an evaluation of our incentive compensation, including a reduction in the target award amounts under our long-term equity incentive program to reflect the increased value of the stock option awards granted to our NEOs and

other employees. We expect to continue to evaluate our equity compensation strategy across the organization during 2016 to determine if additional adjustments are warranted. In addition, in December 2015, based on a review of our chief executive officer's compensation relative to our peer group conducted by Radford, an independent compensation consultant, our compensation committee approved an increase for 2016 in the chief executive officer's target incentive award for our annual cash incentive program from 60% to 65%.

Role of the Compensation Consultant

Pursuant to its charter, our compensation committee has the authority to select and retain independent advisors and counsel to assist it with carrying out its duties and responsibilities, and we have provided appropriate funding to the compensation committee to do so. The compensation committee has exercised this authority to engage Radford as an independent compensation

Table of Contents

consultant. Radford serves as an advisor to our compensation committee on topics primarily related to our total compensation program, our equity compensation and our future equity compensation strategy, board and executive compensation, and peer group evaluation. Radford reports directly to our compensation committee chair on the matters on which it has been retained. In early 2015, we also utilized the services of Towers Watson, an independent compensation consultant, on a limited basis to advise us on matters relating primarily to board compensation.

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

Compensation Risk Oversight

The company has established, and the compensation committee endorses, several controls to address and mitigate compensation-related risk, such as maintaining an anti-hedging and anti-pledging policy, introduction of stock ownership guidelines for directors (including our chief executive officer) and our president and chief operating officer, and a clawback policy to recover incentive awards in the event that incentive plan award decisions are based on earnings that are subsequently restated. Our compensation committee identified no material risks in Alnylam's compensation programs in 2015.

Committee Process for Setting Total Compensation

Our compensation committee conducts an annual performance review of our NEOs and reviews the compensation of each member of our senior management team, approving compensation for our NEOs and senior vice presidents. During the first quarter of each year, annual corporate goals and individual performance objectives are determined and set forth in writing. Corporate goals are weighted and approved by our board. 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 if necessary and subject to board approval.

For 2015, the individual objectives for our executive officers were the same as the corporate goals for the purpose of determining annual cash incentive awards. The individual contributions of each executive officer towards the achievement of the corporate goals were considered for the purposes of determining other elements of compensation. Individual objectives for 2015 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. In 2015, our compensation committee established the maximum cash bonus opportunity for each member of our senior management team under the 2015 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 the individual performance of employees, as compared to the corporate goals for

Table of Contents

that year. Our compensation committee, with input and recommendations from our chief executive officer, evaluates each of our NEO's individual performance and determines any increases in base salary and any annual stock option awards and/or, based solely on our performance against corporate goals, cash awards under our annual incentive program. Our compensation committee, with input from the chairman of our board, evaluates our chief executive officer's individual performance and determines whether to change his base salary, grant him an annual stock option award and/or grant him a cash award under our annual incentive program. Our compensation committee typically grants annual stock option awards, and determines changes in base salary and the amount of any cash incentive payments, at its last regularly scheduled meeting of the year. Our compensation committee may also review the compensation of our NEOs throughout the course of the year. With respect to year-end reviews, any changes in base salary are effective at the beginning of the following year. The cash incentive payments awarded under our 2015 annual incentive program were paid in January 2016. Our compensation committee may apply its discretion, as it deems appropriate, in determining executive compensation.

Compensation Peer Group and Peer Selection Process

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

In evaluating the total compensation of our NEOs, our compensation committee, using information provided by Radford, 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:

Peer Selection Considerations

| | |
|---------------------------------|---|
| Organizational Structure | Companies whose organizational structure, number of employees, stage of development, market capitalization, and research and development expenditures are similar to ours |
| Executive Positions | Companies with similar executive positions to ours |
| Executive Talent Pool | Companies against which we believe we compete for executive talent |
| Operations in U.S. | Public companies with substantial operations in the United States whose compensation and financial data are available in proxy statements or other public documents |

In addition to the criteria above, our compensation committee also reviewed the peer selection criteria used by the proxy advisors and considered the specific peers identified independently by each advisor. Further, the compensation committee evaluated total stockholder return on a one-, three- and five-year basis to identify other high growth companies most similar to Alnylam. It is worth noting that there are limited companies with a comparable profile to Alnylam. As such, Radford identified four categories of companies that were all considered for purposes of

Table of Contents

selecting a balanced group of 2015 peers: Large Biopharma; Similarly Situated Commercial; Similarly Situated Pre-Commercial; and Governance Peers meeting at least two selection criteria.

2015 Peer Group

Our compensation committee periodically reviews the company's peer group to ensure that the peer companies continue to be appropriate peers for compensation benchmarking purposes. Alnylam's 2014 peer group consisted of 19 companies operating in the biopharmaceutical/biotechnology industry. From the 2014 set of 19 companies, the committee, in consultation with Radford, determined that 11 companies were no longer appropriate as peers on a go-forward basis for a variety of reasons, including corporate transactions due to mergers and acquisitions, size and other considerations, and also selected 11 companies to be added as peer companies. The 2015 peer group reflecting these changes and approved by our compensation committee is shown below, with the new peer companies identified in italics.

| 2015 Peer Group | | |
|-------------------------------------|---|--|
| ACADIA Pharmaceuticals Inc. | <i>Dyax Corp. (now a subsidiary of Shire plc)</i> | <i>Neurocrine Biosciences, Inc.</i> |
| <i>Agios Pharmaceuticals, Inc.</i> | Incyte Corporation | <i>Regeneron Pharmaceuticals, Inc.</i> |
| Alkermes plc | <i>Intercept Pharmaceuticals, Inc.</i> | Seattle Genetics, Inc. |
| <i>Anacor Pharmaceuticals, Inc.</i> | Ionis Pharmaceuticals, Inc. | <i>Ultragenyx Pharmaceutical Inc.</i> |
| BioMarin Pharmaceutical Inc. | <i>Jazz Pharmaceuticals plc</i> | <i>United Therapeutics Corporation</i> |
| <i>bluebird bio, Inc.</i> | Medivation, Inc. | <i>Vertex Pharmaceuticals Incorporated</i> |
| Clovis Oncology, Inc. | | |

From the 2014 peer group, the following companies were excluded as a peer for 2015: Acorda Therapeutics, Inc., Aegerion Pharmaceuticals, Inc., Celldex Therapeutics, Inc., InterMune, Inc., Ironwood Pharmaceuticals, Inc., NPS Pharmaceuticals, Inc. (now a subsidiary of Shire plc), Pacira Pharmaceuticals, Inc., Pharmacyclics LLC, Puma Biotechnology, Inc., Synageva BioPharma Corp. (now a subsidiary of Alexion Pharmaceuticals, Inc.) and Theravance Biopharma, Inc.

Compensation Benchmarking

To provide the appropriate context for executive pay decisions for 2015, our compensation committee, in consultation with Radford, assessed the compensation practices and pay levels of our 2015 peer group. We believe that the compensation practices of our 2015 peer group provided us with appropriate compensation benchmarks for evaluating the compensation of our NEOs during 2015. Notwithstanding the similarities of the 2015 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 2015, our compensation committee generally targeted compensation for our executive officers as shown in the table below. In keeping with our pay-for-performance philosophy, actual compensation levels are correlated to the achievement of corporate

Table of Contents

goals. Moreover, our compensation committee may consider other criteria, including market factors, experience level of the executive, leadership, individual performance against established corporate goals, potential difficulties in replacing the executive and contributions to long-term strategic performance in determining variations to this general target range.

| Compensation Component | Target Benchmark |
|--------------------------------|---|
| Base Salary | Between 50 th to 60 th percentiles of the salaries in our 2015 peer group |
| Annual Cash Incentive Awards | At or below the 50 th percentile of our 2015 peer group |
| Annual Equity Incentive Awards | At or above the 75 th percentile of our 2015 peer group |
| Total Compensation | Between 50 th and 75 th percentiles of compensation paid to similarly situated executives of the companies in our 2015 peer group |

Because a significant portion of our total compensation is tied to equity incentive compensation, total compensation for our NEOs has been higher than the 75th percentile due to the significant appreciation in our stock price from 2012 through mid-2015. In light of this, our compensation committee reviewed our equity incentive compensation guidelines during 2015, with assistance from Radford, and made reductions in equity incentive awards at most levels of the organization. We expect to review our equity incentive compensation guidelines annually and to make further adjustments in 2016, if warranted.

Other Key Performance Factors and Industry Specific Considerations

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

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

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

Table of Contents**Compensation Objectives**

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.

Components of our Compensation Program

As discussed above, the guiding principle of our compensation program is to provide a compensation structure that allows Alnylam to attract and retain highly qualified executive talent and to motivate such executives to achieve clinical, business and financial goals that create value for stockholders in a manner consistent with our core business and leadership values. Three primary components make up Alnylam's executive pay program: base salary, short-term cash incentives and long-term equity incentives. We do not provide our executives with supplemental retirement benefits or personal perquisites.

Each Compensation Element Serves a Unique Purpose

| Compensation Element | Description | Strategic Role |
|--|---|---|
| Base Salary | Fixed cash compensation | Attracts and rewards high performing executives via market competitive pay and industry norms and reflects individual performance |
| Short-Term Cash Incentives - Variable Pay | Positioned within the range of the market median based on each NEO's individual performance, skills, experience and internal equity | |
| | Quantitative and qualitative performance objectives that are annually pre-determined and based on achievement of specific measures | Drives company-wide and individual performance |
| | Cash incentives are awarded only if corporate performance against goals is at least 50% | Rewards annual performance |
| | Awards capped at specified target percentage (130% for fiscal year 2015) | Motivates executives to achieve performance objectives that are key to our annual operating and strategic plans |
| | | Aligns executive and stockholder interests |

| | | |
|--|---|---|
| <p>Long-Term Equity Incentives - Variable Pay</p> | <p>Primarily in the form of stock options</p> <p>Annual equity awards require a 50/50 mix of multi-year time- and performance-based vesting upon achievement of clinical development, regulatory and/or commercial milestones</p> | <p>Encourages executives to achieve multi-year strategic objectives and clinical development, regulatory and commercial milestones</p> <p>Motivates executives to deliver sustained long-term growth</p> <p>Aligns executive and stockholder interests through long-term value creation</p> <p>Enhances retention of key talent</p> |
|--|---|---|

The compensation committee is committed to ensuring that a substantial portion of executive compensation is at-risk and variable. As such, 90% of the CEO's total direct compensation and, on average, 85% of our other NEOs' total direct compensation, is variable and directly affected by both the company's and each NEO's performance.

Table of Contents

Note: The figures above exclude (i) Dr. Gros' compensation given that he joined Alnylam in June 2015 and received pro-rated annual compensation and incentive awards, (ii) Mr. Mason's one-time ten-year anniversary stock option award, and (iii) the 2014 Contingent Option Awards described below on page 51 that were awarded for 2014 performance. With respect to the performance-based stock option awards reflected above, we assumed that as of the grant date it was probable that 100% of the performance conditions would be achieved. See Note 6 of the Summary Compensation Table below for additional information regarding the treatment of these performance-based stock option awards.

Base Salary

Our compensation committee typically determines the base salary for each new 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.

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

For fiscal year 2015, the CEO received a salary increase of 3%, whereas three other NEOs received increases between 1% (representing pro-rated increase) to 5%. One NEO, Mr. Mason, received a 5% merit increase and an 11.7% market adjustment following a review of his base salary versus similar positions in our 2014 peer group.

Table of Contents

At the end of 2015, our compensation committee approved increases for fiscal year 2016 base salary for our CEO and each of our remaining NEOs in the amount of 3% for each NEO, based upon the company's performance against the corporate goals, as well as each NEO's individual contribution to the achievement of those corporate goals, and a review by our compensation committee of the base salaries of comparable NEOs in our 2015 peer group.

The table below sets forth the adjustments to base salary, in dollars and as a percentage, for each of our NEOs:

Base Salary Adjustments

| Name | 2016 Base Salary(\$) | 2015 Base Salary(\$) | Increase(%) |
|---------------------------------|-----------------------------|-----------------------------|--------------------|
| John M. Maraganore, Ph.D. | 731,600 | 710,273 | 3.0 |
| Barry E. Greene | 546,400 | 530,450 | 3.0 |
| Akshay K. Vaishnav, M.D., Ph.D. | 526,350 | 511,000* | 3.0 |
| David-Alexandre C. Gros, M.D.** | 432,300 | 425,000 | 1.7 |
| Michael P. Mason | 309,050 | 300,021 | 3.0 |

* Reflects a 5% market adjustment to Dr. Vaishnav's salary that was effective July 1, 2015.

** Dr. Gros joined the company in June 2015 and received a pro-rated base salary adjustment at the end of 2015.

Table of Contents

Short-Term Incentives - 2015 Annual Incentive Program

Annual cash incentives are paid to our NEOs through Alnylam's Annual Incentive Program (AIP). Our short-term incentive structure is intended to align NEOs' interests directly with Alnylam's corporate goals. In making its determination regarding awards under the 2015 AIP, our compensation committee considered our success against pre-established 2015 corporate goals. Annual cash incentives were calculated as shown below.

* If 2015 corporate performance level is determined to be below 50%, then corporate performance modifier would be 0% and no awards would be granted under the AIP.

** Committee has the discretion to adjust upward or downward any bonus award and/or the bonus pool as it deems appropriate but did not exercise such discretion in 2015.

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 2015, our compensation committee approved the 2015 AIP, including the opportunity for eligible participants to achieve incentive awards above established bonus targets based on the company's performance against 2015 corporate goals. Each potential bonus award for 2015 ranged from 0% to 130% of the individual's target award, thus making 130% of each individual's target award the maximum bonus award achievable in 2015 in the event the company met all of its corporate goals (100%) plus its stretch goals (30%).

The table below shows the target award under the 2015 AIP as a percentage of each NEO's annual base salary in 2015, assuming all of the corporate goals were met but not providing additional credit for the achievement of any stretch goals, the maximum cash award opportunity in dollars for

Table of Contents

2015 that would be paid if all of the corporate goals were met and certain goals were exceeded (stretch goals), and the actual cash bonus payments to our NEOs under the AIP for 2015 performance, which were paid in January 2016, as well as the actual bonus payment as a percentage of the target award opportunity. The details regarding the determination of these cash bonus awards are discussed below.

2015 Annual Incentive Program Awards

| Name | 2015 | 2015 | 2015 | 2015 | 2015 |
|---------------------------------|------------------------------------|------------------------------|---------------------------------|-------------------|--|
| | Target Award (% of Base Salary) | Target Award Opportunity(\$) | Maximum Award Opportunity(\$)** | Actual Payout(\$) | AIP Payout (% of Target Award Opportunity) |
| John M. Maraganore, Ph.D. | 60 | 426,164 | 554,013 | 419,772 | 98.5 |
| Barry E. Greene | 50 | 265,225 | 344,793 | 261,247 | 98.5 |
| Akshay K. Vaishnaw, M.D., Ph.D. | 50 | 255,500 | 332,150 | 251,668 | 98.5 |
| David-Alexandre C. Gros, M.D.* | 40 | 97,278 | 126,461 | 95,819 | 98.5 |
| Michael P. Mason | 30 | 90,006 | 117,008 | 88,657 | 98.5 |

* Dr. Gros award opportunity was pro-rated based on his June 2015 hire date.

** Assuming 130% corporate performance modifier to account for stretch goals.

Table of Contents***Annual Metrics and Goal Assessment***

In making its determination regarding awards under the 2015 AIP, our compensation committee considered our performance against our 2015 corporate goals. The 2015 corporate goals approved by our board, the relative weightings assigned to each goal, our actual achievement during the performance period as a percentage of target and the weighted performance against these corporate goals for 2015, as approved by our compensation committee and our full board, were as follows:

Annual Incentive Payout Matrix

| 2015 Corporate Goals | Relative Weighting (%) | Actual Achievement For 2015 (As % of Target) | Weighted Performance (%) |
|--|-------------------------------|---|---------------------------------|
| Execute on key Genetic Medicine pipeline objectives, including: | | | |
| i Continue enrollment in APOLLO Phase 3 pivotal clinical trial of patisiran and ENDEAVOUR Phase 3 pivotal clinical trial of revusiran; | 15 | 100 | 15 |
| i Present data from patisiran Phase 2 OLE study in mid-2015; | 10 | 100 | 10 |
| i Present data from revusiran Phase 2 OLE study; | 5 | 0 | 0 |
| i Continue enrollment in Phase 1 clinical trial with ALN-AT3, report additional data and initiate Phase 2 portion of study; | 15 | 100 | 15 |
| i Initiate Phase 1/2 clinical trial of ALN-CC5 and present initial data; | 10 | 100 | 10 |
| i Initiate Phase 1 clinical trials of ALN-AS1 and ALN-AAT and report initial data for ALN-AS1; and | 5 | 70 | 3.5 |
| i Stretch Goals - Exceed certain specified pipeline advancement timelines and metrics. | +30 | 50 | +15 |
| Execute on key Cardio-Metabolic and Hepatic Infectious Disease pipeline objective, including: | | | |
| i Continue enrollment in ALN-PCSSc Phase 1 clinical trial and report initial data; and | 10 | 100 | 10 |
| i File CTA for ALN-HBV. | 10 | 0 | 0 |
| Achieve a year-end cash balance of greater than \$1.2 billion. | 15 | 100 | 15 |
| Achieve employee growth and growth management objectives. | 5 | 100 | 5 |

| | | |
|--|------------|-------------|
| Approved 2015 Corporate Performance Level | 130 | 98.5 |
|--|------------|-------------|

Table of Contents

Long-Term Incentives 2015 Equity Awards

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.

Our equity awards program is designed to:

reward demonstrated leadership and performance;

align our executive officers' interests with those of our stockholders through long-term value creation;

retain our executive officers through the vesting period of the awards;

maintain competitive levels of executive compensation; and

motivate our executive officers for outstanding future performance.

Historically, our equity awards have taken the form of stock options, which we believe further strengthens the long-term alignment between our executives and stockholders. We typically grant stock options to each of our executive officers upon commencement of employment and annually in conjunction with our review of individual performance.

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 stock options unless our stock price increases above the value on the date of grant. Accordingly, this portion of our executive officers' compensation is at risk and is directly aligned with stockholder value creation.

Stock options granted to our executive officers upon commencement of employment 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.

Table of Contents

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

Time-based stock options generally vest as to 25% of the shares on the first anniversary of the grant date and as to an additional 6.25% of the shares at the end of each successive three-month period thereafter until the fourth anniversary of the grant date. With respect to the 2015 performance-based portion of the annual stock option awards, one-fourth of the shares subject to the performance-based option will vest upon the later of the one year anniversary of the date of grant and the achievement of each of the following four specific clinical development or commercial events, as approved by our compensation committee:

completion of patient enrollment in our fitusiran Phase 3 study;

the start of a fourth Phase 3 clinical trial;

achievement of positive Phase 3 clinical data in a second clinical development program; and

achievement of the first \$100.0 million in cumulative product sales for an Alnylam product.

Any determination as to whether or not a vesting event has been met shall be approved by our compensation committee and the date of vesting shall be the later of the date of such determination by the committee and the one year anniversary of the date of grant.

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

In connection with the annual review of each executive officer's individual performance and consistent with our compensation philosophy, our compensation committee approved annual equity incentive awards for our executive officers. As noted above, as part of our broad review of equity incentive award levels in 2015, our compensation committee determined to reduce the award amounts for certain of our NEOs from prior fixed award levels. In particular, the equity incentive award for our chief executive officer was reduced from an option to purchase 150,000 shares in 2014 to an option to purchase 130,000 shares in 2015.

We view equity incentive compensation as a critical component of our compensation strategy and therefore we maintain a broad-based program for all employees to participate as owners of the company. This program is consistent with the description above for our NEOs and includes equity incentive awards upon the commencement of employment and annual equity incentive awards for all employees. Annual awards are structured in the same way for all employees, with 50% vesting over time and 50% vesting only upon the achievement of specified performance milestones.

Table of Contents

The annual equity incentive awards granted to our NEOs for 2015 and 2014 performance, and the percentage reduction year-over-year, are set forth in the table below:

Annual Equity Incentive Awards

| Name | Number of Shares Granted | | Year-over-Year Change(%) |
|---------------------------------|-----------------------------------|-----------------------------------|--------------------------|
| | 2015 Annual Stock Option Award(#) | 2014 Annual Stock Option Award(#) | |
| John M. Maraganore, Ph.D. | 130,000 | 150,000 | -13 |
| Barry E. Greene | 80,000 | 95,250 | -16 |
| Akshay K. Vaishnav, M.D., Ph.D. | 60,000 | 70,250 | -15 |
| David-Alexandre C. Gros, M.D.* | 30,023 | N/A | N/A |
| Michael P. Mason** | 14,400 | 16,500 | -13 |

* Dr. Gros joined the company in June 2015 and received a pro-rated stock option award for 2015. Upon the commencement of his employment, Dr. Gros also received a stock option award to purchase 140,000 shares of common stock.

** In recognition of ten years of service with Alnylam and consistent with our past practice, Mr. Mason also received a stock option award to purchase 10,000 shares of fully-vested common stock on his ten-year employment anniversary in December 2015. Continuation of the ten-year service awards is subject to annual review by our compensation committee.

On December 17, 2014, our compensation committee approved the grant of stock options to purchase 612,085 shares of our common stock, at an exercise price of \$96.45 per share, to members of our management team, including our NEOs in connection with their performance and compensation review for 2014. These stock option grants, referred to as the 2014 Contingent Option Awards, were approved subject to and contingent upon approval by our stockholders at the 2015 annual meeting of the Amended and Restated 2009 Plan, to, among other things, increase the shares authorized for issuance thereunder. In May 2015, our stockholders approved the Amended and Restated 2009 Plan. One-half of the 2014 Contingent Option Awards granted are time-based stock options and one-half are performance-based stock options. The 2014 Contingent Option Awards were made as part of the NEOs compensation for 2014, and do not represent compensation awarded for 2015 performance.

The number of stock options granted to our named executive officers during 2015, and the value of those awards determined in accordance with FASB ASC Topic 718, are shown in the 2015 Grants of Plan-Based Awards table below. Although the 2014 Contingent Option Awards described above were granted as part of the NEOs compensation for 2014 and were approved by our compensation committee on December 17, 2014, the grant date fair value of the 2014 Contingent Option Awards for accounting purposes is based on a Black-Scholes valuation model using the fair market value of our common stock on May 1, 2015, the date of stockholder approval of the Amended and Restated 2009 Plan. However, it is important to note that the amounts reported may not represent the amounts our NEOs will actually realize from the 2014 Contingent Option Awards or any other equity awards. Whether, and to what extent, a NEO realizes value will depend on our actual operating performance, stock price fluctuations and the NEO's continued employment.

Table of Contents

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.

Employment Arrangements

Each executive officer has signed a nondisclosure, non competition and assignment of intellectual property 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 18 months after termination of employment.

Pursuant to the terms of his letter of employment, we paid Dr. Gros a signing bonus of \$200,000 in June 2015. In the event that Dr. Gros voluntarily terminates his employment with us, other than for good reason, or is terminated by us for cause, within the first 12 months of his employment with us, he will be required to repay the full amount of this signing bonus. Dr. Gros is entitled to a supplemental sign-on bonus of \$100,000 in June 2016, provided he continues to be our employee at such time. In the event that Dr. Gros either voluntarily terminates his employment with us, other than for good reason, or is terminated by us for cause, within the 12 months following his receipt of the supplemental sign-on bonus, he will be required to repay the full amount of this supplemental sign-on bonus.

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.

Stock Ownership Guidelines

In March 2015, our compensation committee adopted share ownership guidelines for our directors (including our chief executive officer) and our president and chief operating officer. Under these guidelines, covered individuals are required to hold equity securities having a minimum value of \$150,000. Newly appointed/elected persons have five years to achieve the guideline. The following forms of equity will count toward the ownership guideline: shares owned outright; unvested restricted stock, restricted stock units and deferred stock units to be settled in shares; and vested but unexercised in-the-money stock options. The company plans to review compliance annually, valuing stock at the higher of the fair market value on date of review or the trailing 90-day average.

Table of Contents

Anti-Hedging and Anti-Pledging Policy

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

Clawback Policy

We have a clawback policy that covers our chief executive officer and our principal accounting officer, as well as all of our vice presidents. The policy provides that covered executives who engage in misconduct, including embezzlement, fraud, willful misconduct or breach of fiduciary duty, resulting in a financial restatement shall be required, upon the determination of our board of directors, to repay the company any excess proceeds from incentive compensation earned during the covered period.

Compliance with IRS Code Section 162(m)

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

Compensation Committee Report 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, 2015, which was filed with the SEC on February 12, 2016.

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

Table of Contents**Executive Compensation**

The following table sets forth the total compensation paid or accrued for the years ended December 31, 2015, 2014 and 2013 to our named executive officers.

Summary Compensation Table

| Name and Principal Position | Year | Salary (\$) | Bonus (\$) | Stock Awards | Option Awards | Non-Equity Incentive Plan Compensation | All Other Compensation | Total (\$) |
|--|------|-------------|------------|--------------|---------------|--|------------------------|------------|
| | | | | (\$) | (\$)(4)(5) | (\$)(7) | (\$)(8) | |
| John M. Maraganore, Ph.D. <i>Chief Executive Officer (principal executive officer)</i> | 2015 | 710,273 | | | 7,123,547(6) | 419,772 | 7,566 | 8,261,158 |
| | 2014 | 689,585 | | | | 444,000 | 7,596 | 1,141,181 |
| | 2013 | 669,500 | | | 5,127,198(6) | 431,828 | 7,596 | 6,236,122 |
| Barry E. Greene <i>President and Chief Operating Officer</i> | 2015 | 530,450 | | | 4,465,293(6) | 261,247 | 7,896 | 5,264,886 |
| | 2014 | 515,000 | | | | 276,000 | 7,956 | 798,956 |
| | 2013 | 500,000 | | | 3,206,876(6) | 268,750 | 7,746 | 3,983,372 |
| Akshay K. Vaishnav, M.D., Ph.D. <i>Executive Vice President, Research and Development and Chief Medical Officer</i> | 2015 | 500,148(1) | | | 3,316,048(6) | 251,668 | 7,566 | 4,075,430 |
| | 2014 | 463,500 | | | | 249,000 | 7,596 | 720,096 |
| | 2013 | 450,000 | | | 1,048,375(6) | 241,875 | 7,596 | 1,747,846 |
| David-Alexandre C. Gros, M.D.(2) <i>Senior Vice President, Chief Business Officer</i> | 2015 | 241,106 | 200,000(3) | | 9,630,797(6) | 95,819 | 508 | 10,168,230 |
| | 2014 | | | | | | | |
| | 2013 | | | | | | | |
| Michael P. Mason <i>Vice President of Finance and Treasurer (principal financial officer)</i> | 2015 | 300,021 | | | 1,211,050(6) | 88,657 | 6,261 | 1,605,989 |
| | 2014 | 257,187 | | | | 82,000 | 6,167 | 345,354 |
| | 2013 | 252,144 | | | 161,289(6) | 81,316 | 6,101 | 500,850 |

- (1) Dr. Vaishnav's salary included in the Summary Compensation Table with respect to 2015 differs from that set forth in the base salary table on page 45 because Dr. Vaishnav's salary was increased five percent in July 2015 in connection with a market adjustment following an expansion of his leadership responsibilities.

- (2) Dr. Gros joined Alnylam as our senior vice president, chief business officer in June 2015. The amount reported as salary for 2015 represents the total salary earned by Dr. Gros during 2015 and is based upon an annual salary of \$425,000. Dr. Gros was eligible to participate in the 2015 annual cash incentive program with a pro-rated award. In addition, Dr. Gros received a stock option award upon commencement of his employment and a pro-rated annual stock option award in December 2015.
- (3) Pursuant to his letter of employment, we paid Dr. Gros an initial sign-on bonus of \$200,000 in June 2015. In the event that Dr. Gros either voluntarily terminates his employment with us, other than for good reason, or is terminated by us for cause, within the first 12 months of his employment with us, he will be required to repay the full amount of this initial sign-on bonus. Dr. Gros is entitled to a supplemental sign-on bonus of \$100,000 in June 2016, provided he continues to be our employee at such time. In the event that Dr. Gros either voluntarily terminates his employment with us, other than for good reason, or is terminated by us for cause, within the 12 months following his receipt of the supplemental sign-on bonus, he will be required to repay the full amount of this supplemental sign-on bonus.
- (4) The amounts reported in the Option Awards column represent the aggregate grant date fair value for the fiscal years ended December 31, 2015, 2014 and 2013 of grants of time-based stock options to each of the NEOs, calculated in accordance with the provisions of FASB ASC Topic 718. The assumptions we used in calculating these amounts are included in Note 9 of our audited consolidated financial statements for the year ended December 31, 2015 included in our Annual Report on Form 10-K, filed with the SEC on February 12, 2016. To see the value actually realized by the NEO from stock option exercises in 2015, see the 2015 Option Exercises and Stock Vested table appearing below.

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

Table of Contents

- (5) The amounts reported in the Option Awards column for 2015 also include the grant date fair value of the time-based portion of the 2014 Contingent Option Awards that were approved by the compensation committee of our board on December 17, 2014 subject to and contingent upon approval by our stockholders at the 2015 annual meeting of the Amended and Restated 2009 Plan, which approval was obtained on May 1, 2015. Accordingly, the table shows a value of \$0 for the grant date fair value of Option Awards for 2014, since the value is instead captured in 2015. The grant date fair value of the 2014 Contingent Option Awards is based on a Black-Scholes valuation model based on the fair market value of the stock on May 1, 2015, the date of such stockholder approval. No stock-based compensation expense was recorded in 2014 relating to the 2014 Contingent Option Awards. It is important to note that the 2014 Contingent Option Awards were made as part of the NEOs' compensation for 2014, and do not represent compensation awarded for 2015 performance. The breakdown of the value attributable to the time-based portion of the 2015 annual stock option award and the time-based portion of the 2014 Contingent Option Award is set forth in the 2015 Grants of Plan-Based Awards table below, under the Grant Date Fair Value of Stock and Option Awards column.
- (6) Each of the December 18, 2013 annual stock option award, the 2014 Contingent Option Award granted, for accounting purposes, on May 1, 2015, and the December 18, 2015 annual stock option award included certain stock options that are subject to vesting upon the achievement of specific performance conditions. See 2015 Grants of Plan-Based Awards table for additional information regarding the 2014 Contingent Option Award and the December 18, 2015 annual stock option award. We determined that as of the date of the grant it was not probable, as defined under applicable accounting guidance, that any of the performance conditions would be achieved and assigned a grant date fair value of \$0 based on this evaluation. If we had determined that as of the date of the grant it was probable that 100% of the performance conditions would be achieved, we would have assigned the following grant date fair value for the performance-based stock option awards made to each NEO as follows:

| Name | Date of Grant | Performance Year Associated with Grant | Date of Compensation Committee Approval | Grant Date Fair Value of Performance Based Option Awards if 100% Achievement Probable(\$) |
|---------------------------------|---------------|--|---|---|
| John M. Maraganore, Ph.D. | 12/18/15 | 2015 | 12/18/15 | 2,964,962 |
| | 05/01/15 | 2014 | 12/17/14 | 4,158,585 |
| | 12/18/13 | 2013 | 12/18/13 | 3,078,463 |
| Barry E. Greene | 12/18/15 | 2015 | 12/18/15 | 1,824,592 |
| | 05/01/15 | 2014 | 12/17/14 | 2,640,701 |
| | 12/18/13 | 2013 | 12/18/13 | 1,847,078 |
| Akshay K. Vaishnaw, M.D., Ph.D. | 12/18/15 | 2015 | 12/18/15 | 1,368,444 |
| | 05/01/15 | 2014 | 12/17/14 | 1,947,604 |
| | 12/18/13 | 2013 | 12/18/13 | 1,334,001 |
| David-Alexandre C. Gros, M.D. | 12/18/15 | 2015 | 12/18/15 | 684,724 |
| Michael P. Mason | 12/18/15 | 2015 | 12/18/15 | 328,427 |
| | 05/01/15 | 2014 | 12/17/14 | 457,444 |
| | 12/18/13 | 2013 | 12/18/13 | 205,231 |

- (7) The amounts reported in the Non-Equity Incentive Plan Compensation column reflect the annual cash incentive bonus earned by the NEOs for each respective year. The annual cash incentive bonuses were paid in January of the calendar year following the year to which the cash bonus relates.

Table of Contents

- (8) The amounts reported in the All Other Compensation column reflect, for each NEO, the sum of (i) the dollar value of life insurance premiums we paid; (ii) the amount we contributed to the 401(k) plan in respect of such executive officer; and (iii) the incremental cost to us of all perquisites and other personal benefits. Specifically, the All Other Compensation column above includes:

| Name | Year | Dollar Value of Alnylam | | |
|---------------------------------|------|---|---|---|
| | | Term Life Insurance Premiums Paid by Alnylam (\$) | Common Stock Contributed by Alnylam to the Executive s Account Under 401(k) Plan (\$) | Incremental Cost to Alnylam of All Perquisites and Other Personal Benefits (\$) |
| John M. Maraganore, Ph.D. | 2015 | 2,316 | 5,250 | |
| | 2014 | 2,346 | 5,250 | |
| | 2013 | 2,346 | 5,250 | |
| Barry E. Greene | 2015 | 2,316 | 5,250 | 330(a) |
| | 2014 | 2,346 | 5,250 | 360(a) |
| | 2013 | 2,346 | 5,250 | 150(a) |
| Akshay K. Vaishnaw, M.D., Ph.D. | 2015 | 2,316 | 5,250 | |
| | 2014 | 2,346 | 5,250 | |
| | 2013 | 2,346 | 5,250 | |
| David-Alexandre C. Gros, M.D. | 2015 | 508 | | |
| Michael P. Mason | 2015 | 651 | 5,250 | 360(a) |
| | 2014 | 557 | 5,250 | 360(a) |
| | 2013 | 491 | 5,250 | 360(a) |

- (a) Represents amounts for an employee fitness benefit, paid by Alnylam.

Table of Contents

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, 2015 under any plan, contract, authorization or arrangement pursuant to which cash, securities, similar instruments or other property may be received:

2015 Grants of Plan-Based Awards

| | Date of Grant(1) | Date of Committee Approval(2) | Estimated Future Payouts Under Non-Equity Incentive | | | Estimated Future Payouts Under Equity Incentive | | | All Other Awards: Number of Securities Underlying Options(7) | Exercise or Base Price of Option Awards (\$) | Grant Date Valuation of Stock Option Awards (\$) | | | | |
|--------------------------|------------------|-------------------------------|---|-------------|--------------|---|------------|-------------|--|--|--|----------------------------|------------------------|----------------------------|------------------------|
| | | | Threshold (\$) | Target (\$) | Maximum (\$) | Threshold (#) | Target (#) | Maximum (#) | | | | | | | |
| | | | | | | | | | | | | Plan Awards(5) | | Plan Awards(6) | |
| | | | | | | | | | | | | Under Non-Equity Incentive | Under Equity Incentive | Under Non-Equity Incentive | Under Equity Incentive |
| Maraganore, Ph.D. | 12/18/15 | | 0 | 426,164 | 554,013 | | | | | | | | | | |
| | 12/18/15 | 12/18/15 | | | | | | 65,000(7) | 88.95 | 2,900 | | | | | |
| | 12/18/15 | 12/18/15 | | | | 65,000 | 65,000 | | 88.95 | | | | | | |
| | 05/01/15(2) | 12/17/14 | | | | | | 75,000(7) | 96.45 | 4,150 | | | | | |
| | 05/01/15(2) | 12/17/14 | | | | 75,000 | 75,000 | | 96.45 | | | | | | |
| Greene | 12/18/15 | | 0 | 265,225 | 344,793 | | | | | | | | | | |
| | 12/18/15 | 12/18/15 | | | | | | 40,000(7) | 88.95 | 1,800 | | | | | |
| | 12/18/15 | 12/18/15 | | | | 40,000 | 40,000 | | 88.95 | | | | | | |
| | 05/01/15(2) | 12/17/14 | | | | | | 47,625(7) | 96.45 | 2,600 | | | | | |
| | 05/01/15(2) | 12/17/14 | | | | 47,625 | 47,625 | | 96.45 | | | | | | |
| K. Vaishnav, M.D., Ph.D. | 12/18/15 | | 0 | 255,500 | 332,150 | | | | | | | | | | |
| | 12/18/15 | 12/18/15 | | | | | | 30,000(7) | 88.95 | 1,300 | | | | | |
| | 12/18/15 | 12/18/15 | | | | 30,000 | 30,000 | | 88.95 | | | | | | |
| | 05/01/15(2) | 12/17/14 | | | | | | 35,125(7) | 96.45 | 1,900 | | | | | |
| | 05/01/15(2) | 12/17/14 | | | | 35,125 | 35,125 | | 96.45 | | | | | | |
| Alexandre C. Gros, M.D. | 12/18/15 | | 0 | 97,278 | 126,461 | | | | | | | | | | |
| | 12/18/15 | 12/18/15 | | | | | | 15,012(7) | 88.95 | 600 | | | | | |
| | 12/18/15 | 12/18/15 | | | | 15,011 | 15,011 | | 88.95 | | | | | | |
| | 06/08/15(3) | | | | | | | 140,000(3) | 129.97 | 8,900 | | | | | |
| P. Mason | 12/18/15 | | 0 | 90,006 | 117,008 | | | | | | | | | | |
| | 12/18/15 | 12/18/15 | | | | | | 7,200(7) | 88.95 | 300 | | | | | |
| | 12/18/15 | 12/18/15 | | | | 7,200 | 7,200 | | 88.95 | | | | | | |
| | 12/07/15(4) | | | | | | | 10,000(4) | 97.72 | 400 | | | | | |
| | 05/01/15(2) | 12/17/14 | | | | | | 8,250(7) | 96.45 | 400 | | | | | |
| | 05/01/15(2) | 12/17/14 | | | | 8,250 | 8,250 | | 96.45 | | | | | | |

(1) None of our NEOs received restricted stock awards or stock appreciation rights in 2015. The stock option awards reported in the 2015 Grants of Plan-Based Awards table were granted pursuant to the Amended and Restated 2009 Plan. Our Amended and Restated 2009 Plan provides that the option exercise price may not be

less than 100% of the fair market value of our common stock on the date of grant, which, for the 2014 Contingent Option Awards described below, was December 17, 2014, the date of approval by the compensation committee of our board.

- (2) On December 17, 2014, our compensation committee approved the grant of the 2014 Contingent Option Awards to purchase 612,085 shares of our common stock, at an exercise price of \$96.45 per share, to members of our management team, including our NEOs, in connection with their performance and compensation review for 2014. These 2014 Contingent Option Awards were approved subject to and contingent upon approval by our stockholders at the 2015 annual meeting of the Amended and Restated 2009 Plan, to, among other things, increase the shares authorized for issuance thereunder, which approval was obtained on May 1, 2015. Consequently, the date of grant is shown as May 1, 2015, not December 17, 2014. One-half of the 2014 Contingent Option Awards granted are time-based stock options and one-half are performance-based stock options. It is important to note that the 2014 Contingent Option Awards were made as part of the NEOs compensation for 2014, and do not represent compensation awarded for 2015 performance.
- (3) Dr. Gros joined Alnylam as our senior vice president, chief business officer in June 2015 and received a stock option award upon commencement of his employment. 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.
- (4) In September 2013, our compensation committee approved a ten-year service award for employees pursuant to which each individual employed by the company for ten consecutive years received a fully vested stock option award to purchase 10,000 shares of our common stock, subject to annual review by our compensation committee. Mr. Mason received a ten-year service award in December 2015.

Table of Contents

- (5) The amounts shown in the threshold, target and maximum columns reflect the minimum, target and maximum amounts payable, respectively, under our 2015 annual cash incentive program, which is described above in the Compensation Discussion and Analysis under the heading Short-Term Incentives - 2015 Annual Incentive Program. The actual amounts paid to each NEO can be found above in the Summary Compensation Table under the column entitled Non-Equity Incentive Plan Compensation.
- (6) The amounts shown in the threshold, target and maximum columns reflect the minimum, target and maximum potential future payout range for stock option awards granted with performance-based vesting milestones.
- (7) The time-based portion of the option awards vest as to 25% of the shares on the first anniversary of the grant date and as to an additional 6.25% of the shares at the end of each successive three-month period thereafter until the fourth anniversary of the grant date.
- (8) 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 2015 Grants of Plan-Based Awards table for the time-based stock option awards reflect our accounting expense, excluding the effect of estimated forfeitures, and may not represent the amounts our NEOs will actually realize from the awards. Whether, and to what extent, a NEO realizes value will depend on our actual operating performance, stock price fluctuations and the NEO's continued employment.

The grant date fair value of the portion of the time-based 2014 Contingent Option Awards is based on a Black-Scholes valuation model based on the fair market value of the stock on May 1, 2015, the date of stockholder approval of the Amended and Restated 2009 Plan, although the options were approved by our compensation committee in December 2014 in connection with its performance and compensation review for 2014. No stock-based compensation expense was recorded prior to May 1, 2015 with respect to the 2014 Contingent Option Awards.

- (9) We determined that as of the date of the grant it was not probable, as defined under applicable accounting guidance, that any of the performance-based vesting conditions for these stock option awards would be achieved and assigned a grant date fair value of \$0 based on this determination.

Table of Contents**Information Relating to Equity Awards and Holdings**

The following table sets forth information concerning outstanding equity awards held by each of our named executive officers on December 31, 2015.

Outstanding Equity Awards at Fiscal Year-End for 2015**Option Awards(1)**

| Name | Grant Date | Number of Securities | | Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options (#) | Option Exercise Price (\$) | Option Expiration Date |
|------------------------------|------------|------------------------------------|------------------------------------|--|----------------------------|------------------------|
| | | Underlying Unexercised Options (#) | Underlying Unexercised Options (#) | | | |
| John M. Maraganore, Ph.D. | 12/14/2006 | 120,605 | | | 22.75 | 12/14/2016 |
| | 12/12/2007 | 147,415 | | | 31.39 | 12/12/2017 |
| | 12/09/2008 | 148,636 | | | 21.35 | 12/09/2018 |
| | 12/10/2009 | 98,913 | | | 16.43 | 12/10/2019 |
| | 12/08/2010 | 139,060 | | | 9.14 | 12/08/2020 |
| | 11/30/2011 | 139,436 | | | 7.10 | 11/30/2021 |
| | 12/20/2012 | 112,500 | 37,500 | | 18.66 | 12/20/2022 |
| | 09/11/2013 | 10,000(2) | | | 55.96 | 09/11/2023 |
| | 12/18/2013 | 75,000 | 75,000 | | 63.00 | 12/18/2023 |
| | 12/18/2013 | 25,000(3) | | 50,000(3) | 63.00 | 12/18/2023 |
| | 05/01/2015 | 18,750(4) | 56,250(4) | | 96.45 | 12/17/2024 |
| | 05/01/2015 | | | 75,000(5) | 96.45 | 12/17/2024 |
| | 12/18/2015 | | 65,000 | | 88.95 | 12/18/2025 |
| | 12/18/2015 | | | 65,000(6) | 88.95 | 12/18/2025 |
| Barry E. Greene | 12/14/2006 | 55,605 | | | 22.75 | 12/14/2016 |
| | 12/12/2007 | 76,815 | | | 31.39 | 12/12/2017 |
| | 12/09/2008 | 85,316 | | | 21.35 | 12/09/2018 |
| | 12/10/2009 | 58,913 | | | 16.43 | 12/10/2019 |
| | 12/08/2010 | 98,000 | | | 9.14 | 12/08/2020 |
| | 11/30/2011 | 100,000 | | | 7.10 | 11/30/2021 |
| | 12/20/2012 | 75,000 | 25,000 | | 18.66 | 12/20/2022 |
| | 10/21/2013 | 10,000(2) | | | 59.31 | 10/21/2023 |
| | 12/18/2013 | 45,000 | 45,000 | | 63.00 | 12/18/2023 |
| | 12/18/2013 | 15,000(3) | | 30,000(3) | 63.00 | 12/18/2023 |

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| | | | | | |
|------------|-----------|-----------|-----------|-------|------------|
| 05/01/2015 | 11,907(4) | 35,718(4) | | 96.45 | 12/17/2024 |
| 05/01/2015 | | | 47,625(5) | 96.45 | 12/17/2024 |
| 12/18/2015 | | 40,000 | | 88.95 | 12/18/2025 |
| 12/18/2015 | | | 40,000(6) | 88.95 | 12/18/2025 |

Table of Contents

| Name | Grant Date | Number of Securities | | Equity Incentive Plan Awards: | | Option Exercise Price | Option Expiration Date |
|------------------------------------|------------|------------------------------------|------------------------------------|---|---|-----------------------|------------------------|
| | | Underlying Unexercised Options (#) | Underlying Unexercised Options (#) | Number of Securities Underlying Unexercised Options (#) | Number of Securities Underlying Unexercised Options (#) | | |
| Akshay K. Vaishnav, M.D., Ph.D. | 12/14/2006 | 29,165 | | | | 22.75 | 12/14/2016 |
| | 12/12/2007 | 32,750 | | | | 31.39 | 12/12/2017 |
| | 12/09/2008 | 60,350 | | | | 21.35 | 12/09/2018 |
| | 12/10/2009 | 40,085 | | | | 16.43 | 12/10/2019 |
| | 11/30/2011 | 5,000 | | | | 7.10 | 11/30/2021 |
| | 12/20/2012 | 37,500 | 12,500 | | | 18.66 | 12/20/2022 |
| | 12/18/2013 | 16,250 | 16,250 | | | 63.00 | 12/18/2023 |
| | 12/18/2013 | 10,834(3) | | 21,666(3) | | 63.00 | 12/18/2023 |
| | 05/01/2015 | 8,782(4) | 26,343(4) | | | 96.45 | 12/17/2024 |
| | 05/01/2015 | | | 35,125(5) | | 96.45 | 12/17/2024 |
| | 12/18/2015 | | 30,000 | | | 88.95 | 12/18/2025 |
| 12/18/2015 | | | 30,000(6) | | 88.95 | 12/18/2025 | |
| David-Alexandre C. Gros, M.D. | 06/08/2015 | | 140,000 | | | 129.97 | 06/08/2025 |
| | 12/18/2015 | | 15,012 | | | 88.95 | 12/18/2025 |
| | 12/18/2015 | | | 15,011(6) | | 88.95 | 12/18/2025 |
| Michael P. Mason | 11/30/2011 | 3,750 | | | | 7.10 | 11/30/2021 |
| | 12/20/2012 | 3,125 | 2,500 | | | 18.66 | 12/20/2022 |
| | 12/18/2013 | 939 | 2,500 | | | 63.00 | 12/18/2023 |
| | 12/18/2013 | | | 3,333(3) | | 63.00 | 12/18/2023 |
| | 05/01/2015 | 2,063(4) | 6,187(4) | | | 96.45 | 12/17/2024 |
| | 05/01/2015 | | | 8,250(5) | | 96.45 | 12/17/2024 |
| | 12/07/2015 | 10,000(2) | | | | 97.72 | 12/07/2025 |
| | 12/18/2015 | | 7,200 | | | 88.95 | 12/18/2025 |
| 12/18/2015 | | | 7,200(6) | | 88.95 | 12/18/2025 | |

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

- (3) These options were granted on December 18, 2013 and will vest in three equal installments upon the achievement of each of three specific clinical development or regulatory events. One-third of these options vested in December 2014 based on the start of a second Phase 3 clinical trial of an Alnylam 5x15 program.
- (4) On December 17, 2014, our compensation committee approved the grant of 2014 Contingent Option Awards to members of our management team, including our NEOs, in connection with their performance and compensation review for 2014. These 2014 Contingent Option Awards were approved subject to and contingent upon approval by our stockholders at the 2015 annual meeting of the Amended and Restated 2009 Plan, which approval was obtained on May 1, 2015. These options represent the half of the 2014 Contingent Option Award subject to time-based vesting.
- (5) These options represent the half of the 2014 Contingent Option Award described in Note 4 above subject to performance-based vesting. These options will vest in three equal installments upon the achievement of each of three specific clinical development or regulatory events. One-third of these options vested on February 1, 2016 based upon the completion of patient enrollment in our Phase 3 APOLLO study.
- (6) These options were granted on December 18, 2015 and will vest in four equal installments upon the later of one-year from the date of grant and the achievement of each of four specific clinical development or commercial events.

Table of Contents

The following table sets forth information concerning the exercise of stock options during 2015 for each of our named executive officers.

2015 Option Exercises and Stock Vested

| Name | Option Awards | |
|---------------------------------|---|--|
| | Number of Shares Acquired on Exercise(#) | Value Realized on Exercise (\$)(1) |
| John M. Maraganore, Ph.D. | 127,943 | 11,663,024(2) |
| Barry E. Greene | 94,351 | 10,428,474(2) |
| Akshay K. Vaishnav, M.D., Ph.D. | 23,250 | 2,502,847(2) |
| David-Alexandre C. Gros, M.D. | | |
| Michael P. Mason | 4,791 | 410,992 |

- (1) The value realized on exercise is based on the sales price of the shares less the applicable option exercise price.
- (2) This amount also includes the value realized for exercise and hold transactions. The value realized on exercise and hold transactions is based on the market price of the shares on the date of exercise less the applicable option exercise price.

Securities Authorized for Issuance Under Equity Compensation Plans

The following table provides information as of December 31, 2015 about the securities authorized for issuance under our equity compensation plans, consisting of our 2002 Employee, Director and Consultant Stock Option Plan, or the 2002 Plan, our 2003 Employee, Director and Consultant Stock Option Plan, or the 2003 Plan, our Amended and Restated 2004 Equity Incentive Plan, or the 2004 Plan, our Amended and Restated 2009 Plan and our 2004 Employee Stock Purchase Plan, as amended, or the ESPP Plan. All of our equity compensation plans have been approved by our stockholders.

Equity Compensation Plan Information

| | Number of Securities to Be | | |
|---------------------|--|--|--|
| | Issued Upon Exercise of Outstanding Options and Rights(#)(1) | Weighted-Average Exercise Price of Outstanding Options and Rights\$(2) | Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans(3) |
| Equity compensation | 9,978,783 | 59.14 | 3,667,071 |

| | | | |
|--|------------------|--------------|------------------|
| plans approved by stockholders | | | |
| Equity compensation plans not approved by stockholders | | | |
| Total | 9,978,783 | 59.14 | 3,667,071 |

- (1) Includes 9,959,512 shares of common stock issuable upon the exercise of outstanding options and 19,271 shares of common stock issuable upon the vesting of shares of restricted stock units.
- (2) Since restricted stock units do not have any exercise price, such units are not included in the weighted-average exercise price calculation.
- (3) Consists of 102,482 shares of our common stock available for future issuance under our 2004 Plan, 3,380,197 shares of our common stock available for future issuance under our Amended and Restated 2009 Plan and 184,392 shares of our common stock available for future issuance under our ESPP Plan. No shares of our common stock were available for issuance under our 2002 Plan or our 2003 Plan as of December 31, 2015.

Table of Contents

SAY-ON-PAY ADVISORY VOTE ON EXECUTIVE COMPENSATION (PROPOSAL 2)

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

We encourage stockholders to read closely the "Executive Compensation" section of this proxy statement beginning with the "Compensation Discussion and Analysis" on page 35, 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, 2015.

As we describe in the "Compensation Discussion and Analysis," we maintain straight-forward executive compensation programs that generally consist of base salary, an annual cash incentive award and equity incentive awards upon the commencement of employment and annually thereafter. 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 incentive 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, and with respect to base salary and annual equity incentive awards, consideration of the executive officer's individual contributions to the achievement of the corporate 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.

Table of Contents

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

BOARD RECOMMENDATION

Our board of directors unanimously recommends that you vote to approve the compensation of our named executive officers by voting **FOR Proposal 2.**

Page | 63

Table of Contents

RATIFICATION OF APPOINTMENT OF INDEPENDENT AUDITORS (PROPOSAL 3)

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, 2016. Although stockholder approval of our board's appointment of PricewaterhouseCoopers LLP is not required by law, our board believes that it is advisable to give stockholders an opportunity to ratify this appointment. If this proposal is not approved at the annual meeting, our board will reconsider its appointment of PricewaterhouseCoopers LLP. Representatives of PricewaterhouseCoopers LLP are expected to be present at the annual meeting and will have the opportunity to make a statement, if they desire to do so, and will be available to respond to appropriate questions from our stockholders.

BOARD RECOMMENDATION

Our board of directors unanimously recommends a vote FOR the ratification of the appointment of PricewaterhouseCoopers LLP as our independent auditors for the fiscal year ending December 31, 2016.

Table of Contents

AUDIT INFORMATION

Report of the Audit Committee

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

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

Our audit committee has reviewed our audited financial statements for the fiscal year ended December 31, 2015, and has discussed them with our management and our independent registered public accounting firm, PricewaterhouseCoopers LLP. Our audit committee has also received from, and discussed with, PricewaterhouseCoopers LLP various communications that PricewaterhouseCoopers LLP is required to provide to our audit committee, including the matters required to be discussed by the Public Company Accounting Oversight Board, or PCAOB, Auditing Standard No. 16, *Communications with Audit Committees*, as amended, which requires the independent registered public accounting firm to provide the audit committee with additional information regarding the scope and results of the audit, including the independent registered public accounting firm's responsibilities under PCAOB standards, significant issues or disagreements concerning our accounting practices or financial statements, significant accounting policies, significant accounting adjustments, alternative accounting treatments, accounting for significant unusual transactions, and estimates, judgments and uncertainties.

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

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

Table of Contents

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, 2015. 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, 2016.

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

Kevin P. Starr, Chair

Michael W. Bonney

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:

| Fee Category | 2015(\$) | 2014(\$) |
|-----------------------|-----------------|-----------------|
| Audit Fees(1) | 729,400 | 835,500 |
| Audit-Related Fees(2) | | 48,000 |
| Tax Fees | 110,000 | |
| All Other Fees(3) | 1,800 | 1,800 |
| Total Fees | 841,200 | 885,300 |

- (1) Audit Fees consist of fees for the audit of our annual financial statements, the review of the interim financial statements included in our quarterly reports on Form 10-Q and other professional services provided in connection with regulatory filings or audit engagements. In 2015, this amount also includes \$105,000 for a comfort letter and associated fees in connection with our equity offering, as well as \$39,000 billed for accounting consultations. In 2014, this amount also includes \$236,000 billed for accounting consultations.
- (2) Audit-Related Fees in 2014 represent payment for partial procedures completed for a comfort letter.
- (3) Tax Fees in 2015 consists of fees for procedures completed in connection with a research and development tax credit study.
- (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.

Table of Contents

ADDITIONAL INFORMATION AND OTHER MATTERS

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Policies and Procedures for Related Person Transactions

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

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

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

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

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

Table of Contents

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

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

a transaction that is specifically contemplated by provisions of our charter or bylaws.

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

In addition to the policy described above, we have adopted a number of internal procedures to assist with the identification and approval of any related person transactions, including annual questionnaires to our directors and officers, quarterly questionnaires to certain legal, human resource and finance personnel, and quarterly review with our audit committee and independent registered public accounting firm.

Related Person Transactions

As part of its rights under our investor agreement with Sanofi Genzyme, Sanofi Genzyme has the right at the beginning of each year to purchase a number of shares of our common stock based on the number of shares we issued during the previous year for compensation-related purposes. Sanofi Genzyme exercised this right to purchase directly from us 196,251 shares of our common stock on January 22, 2015 for \$18.3 million and an additional 205,030 shares of our common stock on February 1, 2016 for \$14.3 million. Also in January 2015, in connection with our public offering, Sanofi Genzyme exercised its right to purchase directly from us, in concurrent private placements, 744,566 shares of common stock at the public offering price resulting in \$70.7 million in proceeds to us. In each instance, the purchases by Sanofi Genzyme allowed Sanofi Genzyme to maintain its ownership level of our common stock of approximately 12%.

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

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

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

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

Table of Contents

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

STOCKHOLDER PROPOSALS

In order to be included in the proxy materials for the 2017 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 November 21, 2016. We suggest that proponents submit their proposals by certified mail, return receipt requested, addressed to our Corporate Secretary.

In addition, our bylaws require that we be given advance notice of stockholder nominations for election to our board of directors and of other matters which stockholders wish to present for action at an annual meeting of stockholders, other than matters included in our proxy statement. The required notice must be in writing and received by our corporate secretary at our principal offices not later than February 2, 2017 (90 days prior to the first anniversary of our 2016 annual meeting of stockholders) and not before January 3, 2017 (120 days prior to the first anniversary of our 2016 annual meeting of stockholders). However, if the 2017 annual meeting of stockholders is advanced by more than 20 days, or delayed by more than 60 days, from the first anniversary of the 2016 annual meeting of stockholders, notice must be received not earlier than the 120th day prior to such annual meeting and not later than the close of business on the later of (1) the 90th day prior to such annual meeting and (2) the 10th day following the date on which notice of the date of such annual meeting was mailed or public disclosure of the date of such annual meeting was made, whichever occurs first. Our bylaws also specify requirements relating to the content of the notice which stockholders must provide, including a stockholder nomination for election to our board of directors, to be properly presented at the 2017 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.

Table of Contents

Electronic Voting Instructions

Available 24 hours a day, 7 days a week!

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

VALIDATION DETAILS ARE LOCATED BELOW IN THE TITLE BAR.

Proxies submitted by the Internet or telephone must be received by 11:59 p.m., Eastern Time, on May 2, 2016.

Vote by Internet

Go to
www.investorvote.com/ALNY

Or scan the QR code with your smartphone

Follow the steps outlined on the secure website

Vote by telephone

Call toll free 1-800-652-VOTE (8683) within the USA, US territories & Canada on a touch tone telephone

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

Follow the instructions provided by the recorded message

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

Proposals The Board of Directors recommends you vote FOR each of the listed director nominees to serve for a term ending in 2019 and FOR Proposals 2 and 3.

ect the following nominees as Class III directors of Alnylam:

| For | Against | Abstain | For | Against | Abstain | For | Against | Absta |
|----------------------|----------------|----------------|----------------------|----------------|----------------|---------------------|----------------|--------------|
| Steven M. Paul, M.D. | " | " | 02 - Amy W. Schulman | " | " | 03 - Kevin P. Starr | " | " |

| | For | Against | Abstain |
|---|------------|----------------|----------------|
| 2. To approve, in a non-binding advisory vote, the compensation of Alnylam's named executive officers. | " | " | " |
| 3. To ratify the appointment of PricewaterhouseCoopers LLP, an independent registered public accounting firm, as Alnylam's independent auditors for the fiscal year ending December 31, 2016. | " | " | " |

In their discretion, the Proxies are authorized to vote upon any other business that may properly come before the annual meeting or at any adjournment(s) thereof.

Non-Voting Items

Change of Address Please print new address below.

Comments Please print your comments below.

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

Please sign exactly as your name(s) appear(s) hereon. All holders must sign. When signing as attorney, executor, administrator or other fiduciary, please give your full title as such. Joint owners should each sign personally. If a corporation, please sign in full corporate name, by authorized officer. If a partnership, please sign in partnership name by authorized person.

Date (mm/dd/yyyy) Please print date below.

/ /

Signature 1 Please keep signature within the box.

Signature 2 Please keep signature within the box.

029LVD

Table of Contents

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting of Stockholders to be Held on MAY 3, 2016:

The proxy statement, our annual report on Form 10-K and 2016 CEO Letter to Stockholders are available for viewing, printing and downloading at www.alnylam.com/AnnualMeeting.

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

Proxy ALNYLAM PHARMACEUTICALS, INC.

ANNUAL MEETING OF STOCKHOLDERS

To be held on May 3, 2016 at 8:00 a.m., Eastern Time

This Proxy is solicited on behalf of the Board of Directors of Alnylam Pharmaceuticals, Inc. (Alnylam).

The undersigned, having received notice of the annual meeting of stockholders and the proxy statement therefor and revoking all prior proxies, hereby appoints each of John M. Maraganore, Ph.D., Laurie B. Keating and Michael P. Mason (each with full power of substitution), as Proxies of the undersigned, to attend the annual meeting of stockholders of Alnylam to be held at 8:00 a.m., Eastern Time, on Tuesday, May 3, 2016, at the offices of Alnylam, 300 Third Street, Cambridge, Massachusetts 02142, and any adjourned or postponed session thereof, and there to vote and act as indicated upon the matters on the reverse side in respect of all shares of common stock which the undersigned would be entitled to vote or act upon, with all powers the undersigned would possess if personally present.

You can revoke your proxy at any time before it is voted at the annual meeting by (i) submitting another properly completed proxy bearing a later date; (ii) giving written notice of revocation to the Secretary of Alnylam; (iii) if you submitted a proxy through the Internet or by telephone, by submitting a proxy again through the Internet or by

telephone prior to the close of the Internet voting facility or the telephone voting facility; or (iv) voting in person at the annual meeting. If you hold any of the shares of common stock in a fiduciary, custodial or joint capacity or capacities, this proxy is signed by you in every such capacity as well as individually.

The shares of common stock of Alnylam represented by this proxy will be voted as directed by you for the proposals herein proposed by Alnylam. If no direction is given with respect to any proposal specified herein, this proxy will be voted FOR the proposal. In their discretion, the Proxies are authorized to vote upon any other business that may properly come before the annual meeting or any adjournment(s) thereof.

Please vote, date and sign on reverse side and return promptly in the enclosed pre-paid envelope.

Your vote is important. Please vote immediately.

CONTINUED AND TO BE SIGNED ON REVERSE SIDE

SEE REVERSE SIDE