

ALNYLAM PHARMACEUTICALS, INC.

Form DEF 14A

April 28, 2005

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**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:

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

**NOTICE OF 2005 ANNUAL MEETING OF STOCKHOLDERS
To Be Held On June 8, 2005**

To our Stockholders:

NOTICE IS HEREBY GIVEN that the Annual Meeting of Stockholders of Alnylam Pharmaceuticals, Inc. will be held on Wednesday, June 8, 2005 at 10:00 a.m., local time, at the offices of Wilmer Cutler Pickering Hale and Dorr LLP, 60 State Street, Boston, Massachusetts 02109. At the meeting, stockholders will consider and vote on the following matters:

1. The election of three (3) members to our board of directors to serve as Class I directors, each for a term of three years.
2. The approval of the compensation to be paid to members of our board of directors.
3. The ratification of the appointment by our board of directors of PricewaterhouseCoopers LLP, an independent registered public accounting firm, as our independent auditors for the fiscal year ending December 31, 2005.

The stockholders will also act on any other business that may properly come before the annual meeting or any adjournment thereof.

Stockholders of record at the close of business on April 11, 2005 are entitled to notice of, and to vote at, the annual meeting or any adjournment thereof. Your vote is important regardless of the number of shares you own.

We hope that all stockholders will be able to attend the annual meeting in person.

Whether or not you plan to attend the annual meeting in person, please complete, date, sign and promptly return the enclosed proxy card in the enclosed envelope or submit a proxy by telephone or through the Internet as described in the enclosed proxy card. If you attend the meeting, your proxy will, upon your written request, be returned to you and you may vote your shares in person.

By Order of the Board of Directors,

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

Cambridge, Massachusetts
April 28, 2005

YOU CAN VOTE IN ONE OF FOUR WAYS:

- (1) Use the toll-free telephone number on your proxy card to submit a proxy by telephone;**
 - (2) Visit the web site noted on your proxy card to submit a proxy through the Internet;**
 - (3) Complete, sign, date and return your proxy card in the enclosed envelope to submit a proxy by mail; or**
 - (4) Vote in person at the Annual Meeting of Stockholders.**
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**ALNYLAM PHARMACEUTICALS, INC.
300 THIRD STREET
CAMBRIDGE, MASSACHUSETTS 02142**

PROXY STATEMENT

**for the 2005 Annual Meeting of Stockholders
to be held on June 8, 2005**

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 Annual Meeting of Stockholders to be held on Wednesday, June 8, 2005 at 10:00 a.m., local time, at the offices of Wilmer Cutler Pickering Hale and Dorr LLP, 60 State Street, Boston, Massachusetts 02109, and at any adjournment thereof.

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

Our Annual Report to Stockholders for the fiscal year ended December 31, 2004 is being mailed to stockholders with the mailing of these proxy materials on or about April 28, 2005.

A copy of our Annual Report on Form 10-K for the fiscal year ended December 31, 2004 as filed with the Securities and Exchange Commission, except for exhibits, will be furnished without charge to any stockholder upon written request to Alnylam Pharmaceuticals, Inc., 300 Third Street, Cambridge, Massachusetts 02142, Attention: Jennifer Curley, Investor Relations, telephone: (617) 551-8200.

Voting Securities and Votes Required

Stockholders of record at the close of business on April 11, 2005 will be entitled to notice of and to vote at the annual meeting. On that date, 20,917,881 shares of our common stock were issued and outstanding. Each share of common stock entitles the holder to one vote with respect to all matters submitted to stockholders at the meeting. We have no other securities entitled to vote at the meeting.

The presence in person or representation by proxy of the holders of a majority of the shares of common stock issued and outstanding and entitled to vote at the annual meeting is necessary to establish a quorum for the transaction of business. If a quorum is not present, the meeting will be adjourned until a quorum is obtained.

Directors are elected by a plurality of the votes cast by the stockholders entitled to vote on the election. To be approved, any other matter submitted to our stockholders, including the approval of the compensation to be paid to our board of directors and the ratification of the appointment of PricewaterhouseCoopers LLP, an independent registered public accounting firm, as our independent auditors, requires the affirmative vote of the holders of a majority of the outstanding shares present in person or represented by proxy at the annual meeting and voting on such matter. The votes will be counted, tabulated and certified by a representative of EquiServe Trust Company, N.A., who will serve as the inspector of elections at the annual meeting.

Shares which abstain from voting as to a particular matter, and shares held in street name by banks or brokerage firms who indicate on their proxy cards that they do not have discretionary authority to vote such shares as to a particular matter, which we refer to as broker non-votes, will not be considered as voting on such matter. Accordingly, neither abstentions nor broker non-votes will have any effect upon the

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outcome of voting with respect to any matters voted on at the annual meeting, but will be counted for the purpose of determining whether a quorum exists.

Stockholders may vote in person or by proxy. Execution of a proxy or submission of a proxy by telephone or through the Internet will not in any way affect a stockholder's right to attend the meeting and vote in person. A proxy may be revoked before it is used to cast a vote. To revoke a proxy, a stockholder must:

file with the corporate secretary of the company, at or before the taking of the vote, a written notice of revocation bearing a later date than the proxy;

duly execute a later dated proxy relating to the same shares and deliver it to the corporate secretary of the company before the taking of the vote; or

if you submitted a proxy through the Internet or by telephone, submit a proxy again through the Internet or by telephone prior to the close of the Internet voting facility or the telephone voting facility; or

attend the annual meeting and vote in person. Attendance at the annual meeting, if a stockholder does not vote, will not be sufficient to revoke a proxy.

Any written notice of revocation or subsequent proxy should be sent to us at the following address: Alnylam Pharmaceuticals, Inc., 300 Third Street, Cambridge, MA 02142, Attention: Steven D. Singer, Esq., Corporate Secretary. The shares represented by all properly executed proxies received in time for the meeting will be voted as specified in those proxies. If the shares you own are held in your name and you do not specify in the proxy card how your shares are to be voted, they will be voted in favor of the election as directors of those persons named in this proxy statement, in favor of the compensation to be paid to our board of directors described in this proxy statement, in favor of the ratification of the appointment of PricewaterhouseCoopers LLP as our independent auditors and in the discretion of the persons appointed as proxies on any other items that may properly come before the meeting. If the shares you own are held in street name, the bank or brokerage firm, as the record holder of your shares, is required to vote your shares in accordance with your instructions. In order to vote your shares held in street name, you will need to follow the directions your bank or brokerage firm provides you.

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: Steven D. Singer, Esq., Corporate Secretary, 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.

STOCK OWNERSHIP INFORMATION

The following table sets forth information regarding beneficial ownership of our common stock as of December 31, 2004 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,

our chief executive officer and each of our two most highly compensated other executive officers who were serving as executive officers on December 31, 2004 and whose total annual compensation

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exceeded \$100,000 for the year ended December 31, 2004, our former senior vice president, research and development, and our former chief financial officer and vice president, finance and strategy, who we refer to collectively as our named executive officers, 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 Securities and Exchange Commission 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 of any shares deemed beneficially owned in this table does not constitute an admission of beneficial ownership of those shares.

Security Ownership of Certain Beneficial Owners and Management

Name and Address of Beneficial Owner(1)	Number of Shares Owned	Common Stock Underlying Options Acquirable Within 60 Days(2)	Total Beneficial Ownership	Percentage of Common Stock Beneficially Owned(3)
	+		=	
Holders of more than 5% of our common stock				
Polaris Venture Partners(4)	2,410,530		2,410,530	11.6%
Abingworth BioVentures(5)	2,343,163		2,343,163	11.2%
Cardinal Partners(6)	2,091,870		2,091,870	10.0%
Atlas Venture(7)	2,006,195		2,006,195	9.6%
ARCH Venture Fund(8)	1,956,527		1,956,527	9.4%
Merck & Co., Inc.(9)	1,236,588		1,236,588	5.9%
FMR Corp.(10)	1,130,510		1,130,510	5.4%
Directors and Named Executive Officers				
Peter Barrett, Ph.D.(7)	2,006,195		2,006,195	9.6%
John E. Berriman				
John K. Clarke(6)	2,091,870		2,091,870	10.0%
John M. Maraganore, Ph.D.	9,270	370,492(11)	379,762	1.8%
Paul R. Schimmel, Ph.D.	237,893		237,893	1.1%
Phillip A. Sharp, Ph.D.	252,630		252,630	1.2%
Kevin P. Starr		18,639	18,639	*
Barry E. Greene	54,551	43,092	97,643	*
Vincent J. Miles		31,250	31,250	*
Thomas R. Ulich, M.D.				
John G. Conley				
All directors and executive officers as a group (9 persons)	4,652,409	463,473	5,115,882	24.5%

- * Less than 1% of our outstanding common stock.
- (1) Unless otherwise indicated, the address of each stockholder is Alnylam Pharmaceuticals, Inc., 300 Third Street, Cambridge, MA 02142.
 - (2) All stock options granted by us prior to the completion of our initial public offering were subject to a right of early exercise, pursuant to which an optionee could exercise unvested stock options for

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shares of restricted stock. However, for purposes of this table, options that will not vest within 60 days after December 31, 2004 have not been deemed exercisable or outstanding.

- (3) Percentage of beneficial ownership is based on 20,848,848 shares of our common stock outstanding as of December 31, 2004. Shares of common stock subject to options currently exercisable, or exercisable within 60 days of December 31, 2004, are deemed outstanding for computing the percentage of the person holding such options but are not deemed outstanding for computing the percentage for any other person.
- (4) Consists of 2,313,914 shares held by Polaris Venture Partners III, L.P., 60,124 shares held by Polaris Venture Partners Entrepreneurs Fund III, L.P. and 36,492 shares held by Polaris Venture Partners Founders Fund III, L.P. Polaris Venture Management Co. III, L.L.C., the general partner of each of these funds, may be deemed to have sole power to vote and dispose of these shares, and Jonathan A. Flint, Terrance G. McGuire, Stephen D. Arnold and Alan G. Spoon, the managing members of Polaris Venture Management Co. III, L.L.C., may be deemed to have shared power to vote and dispose of these shares.

The address of Polaris Venture Partners is 1000 Winter Street, Suite 3350, Waltham, MA 02451.

- (5) Consists of 1,176,269 shares held by Abingworth Bioventures III A L.P., 718,037 shares held by Abingworth Bioventures III B L.P., 430,112 shares held by Abingworth Bioventures III C L.P. and 18,745 shares held by Abingworth Bioventures III Executives L.P. Abingworth Management Limited, the manager of each of these funds, may be deemed to have sole power to vote and sole power to dispose of the shares directly owned by these funds.

The address of Abingworth BioVentures is 38 Jermyn Street, London, England SW1Y 6DN.

- (6) Consists of 2,091,870 shares held by CHP II, L.P. John K. Clarke, the Chairman of our board of directors, is the Managing General Partner of CHP II Management, LLC, the General Partner of CHP II, L.P. Mr. Clarke, together with Brandon H. Hull, John J. Park and Lisa M. Skeete Tatum, the other general partners of CHP II Management LLC, share voting power and investment control with respect to the shares held by CHP II, L.P. Mr. Clarke may be deemed to beneficially own the shares held by CHP II, L.P. although Mr. Clarke disclaims beneficial ownership except to the extent of his pecuniary interest therein.

The address of Cardinal Partners is 221 Nassau Street, Princeton, NJ 08542.

- (7) Consists of 634,331 shares held by Atlas Venture Fund V, L.P., 78,794 shares held by Atlas Venture Fund V-A, C.V., 78,794 shares held by Atlas Venture Fund V-B, C.V., 10,557 shares held by Atlas Venture Entrepreneurs Fund V, L.P., 1,151,536 shares held by Atlas Venture Fund VI, L.P., 31,098 shares held by Atlas Venture Entrepreneurs Fund VI, L.P. and 21,085 shares held by Atlas Venture Fund VI GmbH & Co. KG. By virtue of their relationship as affiliated limited partnerships, each of these funds may be deemed to share the power to direct the disposition of and vote these shares. As general partner or managing limited partner, as the case may be, of certain of these funds, and by virtue of the relationship of these funds as affiliated limited partnerships, each of Atlas Venture Associates V, L.P. and Atlas Venture Associates VI, L.P. may also be deemed to beneficially own these shares. As the general partner of Atlas Venture Associates V, L.P. and Atlas Venture Associates VI, L.P., respectively, Atlas Venture Associates V, Inc. and Atlas Venture Associates VI, Inc. may also be deemed to beneficially own these shares. In their capacities as directors of Atlas Venture Associates V, Inc. and Atlas Venture Associates VI, Inc., each of Axel Bichara, Jean-Francois Formela and Christopher Spray may be deemed to beneficially own these shares.

Each person or entity listed above disclaims beneficial ownership of these shares except for such shares, if any, such person or entity holds of record.

Peter Barrett, Ph.D., a member of our board of directors, is a Senior Partner of Atlas Venture. Mr. Barrett disclaims beneficial ownership of such shares except to the extent of his pecuniary interest therein.

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The address of Atlas Venture is 890 Winter Street, Suite 320, Waltham, MA 02451.

- (8) Consists of 1,944,755 shares held by ARCH Venture Fund V, L.P. and 11,772 shares held by ARCH V Entrepreneurs Fund, L.P.

The General Partner of ARCH Venture Fund V, L.P. and ARCH V Entrepreneurs Fund, L.P. is ARCH Venture Partners V, L.P. The General Partner of ARCH Venture Partners V, L.P. is ARCH Venture Partners V, LLC. By virtue of their relationship as affiliated entities who have overlapping general partners and managing directors, each of these funds and entities may be deemed to share the power to direct the disposition of and vote these shares. As individual general partners or managing directors of ARCH Venture Partners V, LLC and ARCH Venture Partners V, L.P., each of Keith Crandell, Robert Nelson, Steven Lazarus and Clinton Bybee may also be deemed to share investment and voting power with respect to the shares held by these funds.

The address of ARCH Venture Fund is 8725 W. Higgins Road, Suite 290, Chicago, IL 60631.

- (9) The address of Merck & Co., Inc. is One Merck Drive, Whitehouse Station, NJ 08889.

- (10) Fidelity Management & Research Company is the beneficial owner of 1,129,400 shares as a result of acting as an investment advisor to various investment companies registered under Section 8 of the Investment Company Act of 1940. Edward C. Johnson 3d, Chairman of FMR Corp., FMR Corp. and certain funds each has sole power to dispose of the 1,129,400 shares owned by such funds. Neither FMR Corp. nor Edward C. Johnson 3d has the sole power to vote or direct the voting of the shares owned directly by such funds, which power resides with the funds Boards of Trustees. Fidelity Management & Research Company carries out the voting of the shares under written guidelines established by the funds Boards of Trustees.

Fidelity Management Trust Company is the beneficial owner of 1,110 shares. Edward C. Johnson 3d and FMR Corp. each have sole dispositive power over these 1,110 shares and sole power to vote or to direct the voting of these 1,110 shares.

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 1,130,510 shares of our common stock held by these funds. The interest of one person, Fidelity Mid Cap Stock Fund, an investment company registered under the Investment Company Act of 1940, amounted to 1,051,500 shares.

The address of FMR Corp. is 82 Devonshire Street, Boston, MA 02109.

- (11) Includes an aggregate of 4,515 shares subject to options held by trusts established by Dr. Maraganore for the benefit of his children and of which he is the trustee and over which he has sole investment and voting power.

Does not include an option to purchase up to 250,000 shares, which vests upon attainment of a corporate goal, as recommended by the compensation committee and approved by the board of directors.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Securities Exchange Act of 1934 requires our directors, executive officers and the holders of more than 10% of our common stock to file with the Securities and Exchange Commission 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 Securities and Exchange Commission 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, except as set forth below, all filing requirements of Section 16(a) were satisfied with respect to our most recent fiscal year. In 2004, a Form 4 reporting a sale of common stock by each of Polaris Venture Partners Entrepreneurs Fund III, L.P., Polaris Venture Partners III, L.P. and Polaris Venture Partners Founders Fund II, L.P. was not timely filed by Polaris Venture Management Co. III, LLC.

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We have three classes of directors, currently consisting of three Class I directors, two Class II directors and two Class III directors. At each annual meeting, directors are elected for a full term of three years to succeed those whose terms are expiring. The terms of the three classes are staggered in a manner so that only one class is elected by stockholders annually. John M. Maraganore, Ph.D., Paul R. Schimmel, Ph.D. and Phillip A. Sharp, Ph.D. are currently serving as Class I directors. The Class I directors elected this year will serve as members of our board of directors until the 2008 annual meeting of stockholders, or until their respective successors are elected and qualified.

The persons named in the enclosed proxy will vote to re-elect Drs. Maraganore, Schimmel and Sharp as Class I directors unless the proxy is marked otherwise. Drs. Maraganore, Schimmel and Sharp have indicated their willingness to serve on our board of directors, if elected; however, if any nominee should be unable to serve, the person acting under the proxy may vote the proxy for a substitute nominee designated by our board of directors. Our board of directors has no reason to believe that Dr. Maraganore, Dr. Schimmel or Dr. Sharp would be unable to serve if elected.

Board Recommendation

The board of directors recommends a vote FOR the election of each of the Class I director nominees.

Set forth below for each director, including the Class I director nominees, is information as of March 1, 2005 with respect to his or her (a) name and age, (b) positions and offices at Alnylam, (c) principal occupation and business experience during at least the past five years, (d) directorships, if any, of other publicly held companies and (e) the year such person became a member of our board of directors. The duration of an individual's service on our board of directors described below includes service on the board of directors of our predecessor company, which was also known as Alnylam Pharmaceuticals, Inc. The duration of Dr. Maraganore's service as our President and Chief Executive Officer includes service as the President and Chief Executive Officer of our predecessor company.

Name	Age	Director Since	Principal Occupation, Other Business Experience During the Past Five Years and Other Directorships
Class I directors, nominees to be elected at the annual meeting (terms expiring in 2008)			
John M. Maraganore, Ph.D.	42	2002	Dr. Maraganore has served as our President and Chief Executive Officer and as a member of our board of directors since December 2002. From April 2000 to December 2002, Dr. Maraganore served as Senior Vice President, Strategic Product Development for Millennium Pharmaceuticals, Inc., a biopharmaceutical company.
Paul R. Schimmel, Ph.D.(1)	64	2002	Dr. Schimmel is a founder of Alnylam and has served as a member of our board of directors since June 2002. Dr. Schimmel has been the Ernest and Jean Hahn Professor of Molecular Biology and Chemistry and a member of the Skaggs Institute for Chemical Biology at the Scripps Research Institute since 1997. Dr. Schimmel is a member of the National Academy of Sciences and the American Academy of Arts and Sciences. Dr. Schimmel also serves as a director of Alkermes, Inc. and is Co-Chairman of the Board of Directors of Repligen, Inc., which are biotechnology companies.

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Name	Age	Director Since	Principal Occupation, Other Business Experience During the Past Five Years and Other Directorships
Phillip A. Sharp, Ph.D.(2)(3)	60	2002	Dr. Sharp is a founder of Alnylam and has served as a member of our board of directors since June 2002. Dr. Sharp is currently an Institute Professor at the Massachusetts Institute of Technology and was the Founding Director of the McGovern Institute for Brain Research at the Massachusetts Institute of Technology. Dr. Sharp has been a professor at the Massachusetts Institute of Technology since 1974. He is a member of the National Academy of Sciences, the American Academy of Arts and Sciences, and the Institute of Medicine. Dr. Sharp received the Nobel Prize for Physiology or Medicine in 1993. He also serves as a director of Biogen Idec, Inc., a biotechnology company he co-founded in 1978.

**Class II directors
(terms expiring in 2006)**

John E. Berriman(2)	56	2003	Mr. Berriman has served as a member of our board of directors since July 2003. Since May 2004, Mr. Berriman has been a consultant. From August 2001 until May 2004, Mr. Berriman served as a Director of Abingworth Management, a venture capital firm specializing in life science biomedical companies. Mr. Berriman was a consultant to Abingworth Management from March 1997 to August 2001.
John K. Clarke(1)(3)	51	2002	Mr. Clarke has served as the chairman of our board of directors since June 2002. Since founding Cardinal Partners, a venture capital firm focused on healthcare, in 1997, Mr. Clarke has served as its Managing General Partner. Mr. Clarke also serves as a director of Cubist Pharmaceuticals, Inc. and Momenta Pharmaceuticals, Inc., which are biotechnology companies.

**Class III directors
(terms expiring in 2007)**

Peter Barrett, Ph.D.(2)(3)	52	2002	Dr. Barrett has served as a member of our board of directors since July 2002. Dr. Barrett has served as a Senior Partner of Atlas Venture, a venture capital firm, since January 2004. From January 2002 to January 2004, he served as a Senior Principal of Atlas Venture. From August 1998 to December 2001, he served as Executive
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Vice President and Chief Business Officer of Celera Genomics, a biopharmaceutical company, which he co-founded. Mr. Barrett also serves as a director of Momenta Pharmaceuticals, Inc., a biotechnology company.

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Name	Age	Director Since	Principal Occupation, Other Business Experience During the Past Five Years and Other Directorships
Kevin P. Starr(1)	42	2003	Mr. Starr has served as a member of our board of directors since September 2003. Since December 2002, after retiring from Millennium Pharmaceuticals, Inc., Mr. Starr has been an entrepreneur. From December 2001 to December 2002, Mr. Starr served as Chief Operating Officer of Millennium Pharmaceuticals, Inc., a biopharmaceutical company. Mr. Starr also served as Millennium's Chief Financial Officer from December 1998 to December 2002. From June 2000 to December 2001, Mr. Starr served in various vice president positions at Millennium, including Executive Vice President, Business Operations, and Senior Vice President.

(1) Member of Audit Committee

(2) Member of Compensation Committee

(3) Member of Nominating and Corporate Governance Committee

For information relating to shares of our common stock owned by each of our directors, see the disclosure set forth under the heading "Stock Ownership Information."

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. During the past year, we continued to review our corporate governance policies and practices in light of the Sarbanes-Oxley Act of 2002, Securities and Exchange Commission rules and the listing standards of the Nasdaq National Stock Market. This section describes key corporate governance practices that we have adopted.

In 2004, we 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 and our nominating and corporate governance committee. We have posted copies of the Code of Business Conduct and Ethics and each committee's charter on the Corporate Governance section of our website, www.alnylam.com. We intend to disclose any amendments to, or waivers from, our Code of Conduct and Ethics on our website.

Board Determination of Independence

Under Nasdaq National Stock Market rules, a director will only qualify as an independent director if, in the opinion of our board of directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. Our board of directors has determined that none of Peter Barrett, Ph.D., John E. Berriman, John K. Clarke, Paul R. Schimmel, Ph.D., Phillip A. Sharp, Ph.D. and Kevin P. Starr has a relationship which would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each of these directors is an independent director as defined under Rule 4200(a)(15) of the Nasdaq National Stock Market, Inc. Marketplace Rules.

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Board of Directors Meetings and Attendance

The board of directors has responsibility for establishing broad corporate policies and reviewing our overall performance rather than day-to-day operations. The primary responsibility of our board of directors is to oversee the management of our company and, in doing so, serve the best interests of the company and our stockholders. The board of directors selects, evaluates and provides for the succession of executive officers and, subject to stockholder election, directors. It reviews and approves corporate objectives and strategies, and evaluates significant policies and proposed major commitments of corporate resources. Our board of directors also participates in decisions that have a potential major economic impact on our company. Management keeps the directors informed of company activity through regular communication, including written reports and presentations at board of directors and committee meetings.

Our board of directors met ten times during 2004, either in person or by teleconference. During 2004, each of our directors, other than Paul R. Schimmel, Ph.D., attended at least 75% of the aggregate of the total number of board meetings and the total number of meetings held by all committees on which he then served.

Directors are responsible for attending the annual meeting of stockholders. We completed our initial public offering in June 2004, and thus, the 2005 annual meeting of stockholders will be the first held by us as a public company. No members of our board of directors attended the 2004 annual meeting of stockholders.

Board Committees

The board of directors has established three standing committees – audit, compensation and nominating and corporate governance – each of which operates under a charter that has been approved by the board. A copy of the audit committee charter, as in effect on the date of this proxy statement, is attached as *Appendix A*. We have posted copies of each committee’s charter on the Corporate Governance section of our website, www.alnylam.com.

The board of directors has determined that all of the members of each of the board’s three standing committees are independent as defined under the rules of the Nasdaq National Stock Market, including, in the case of all members of the audit committee, the additional independence requirements of Rule 10A-3 under the Securities Exchange Act of 1934.

Audit Committee

We have an audit committee consisting of Kevin P. Starr, Chairman, John K. Clarke and Paul R. Schimmel, Ph.D. The audit committee is responsible for:

appointing, evaluating, retaining 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; and

reviewing and discussing with our management and independent auditors our audited financial statements.

In addition, the audit committee must approve any related party transaction entered into by us. We believe that each member of the audit committee satisfies the requirements for membership established by the Nasdaq National Market and the SEC.

The board of directors has determined that Mr. Starr is an audit committee financial expert as defined in Item 401(h) of Regulation S-K.

No member of the audit committee is the beneficial owner of more than 10% of our common stock.

The audit committee met three times during 2004.

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Compensation Committee

We have a compensation committee consisting of Peter Barrett, Ph.D., Chairman, John E. Berriman and Phillip A. Sharp, Ph.D. The compensation committee reviews, and makes recommendations to the board of directors regarding, the compensation and benefits of our executive officers. The compensation committee also administers the issuance of stock options and other awards under our stock plans and establishes and reviews policies relating to the compensation and benefits of our employees and consultants. We believe that each member of the compensation committee satisfies the requirements for membership established by the Nasdaq National Market.

The compensation committee met seven times during 2004.

Nominating and Corporate Governance Committee

We have a nominating and corporate governance committee consisting of John K. Clarke, Chairman, Peter Barrett, Ph.D. and Phillip A. Sharp, Ph.D. The purpose of the nominating and corporate governance committee is to: recommend to the board of directors the persons to be nominated for election as directors at any meeting of stockholders;

develop and recommend to the board of directors a set of corporate governance principles; and

oversee the evaluation of the board of directors.

Procedures for the consideration of director nominees recommended by stockholders are set forth in our bylaws. We believe that each member of the compensation committee satisfies the requirements for membership established by the Nasdaq National Market.

The nominating and corporate governance committee met twice during 2004.

Director Candidates

The process followed by the 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 the board.

In considering whether to recommend any particular candidate for inclusion in the board's slate of recommended director nominees, the nominating and corporate governance committee will apply certain criteria, including the candidate's integrity, business acumen, knowledge of our business and industry, experience, diligence, conflicts of interest and the ability to act in the interests of all stockholders. 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 the board to fulfill its responsibilities.

Stockholders may recommend individuals to the nominating and corporate governance committee for consideration as potential director candidates by submitting their names, together with appropriate biographical information and background materials and a statement as to whether the stockholder or group of stockholders making the recommendation has beneficially owned more than 5% of our common stock for at least 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 directly nominate

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director candidates, 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 Drs. Maraganore, Schimmel and Sharp, each of whom currently serves on our board. Each of Drs. Maraganore, Schimmel and Sharp were proposed to the board by the nominating and corporate governance committee and the board determined to include them among its nominees.

Communicating with the Independent Directors

The board will give appropriate attention to written communications that are submitted by stockholders, and will respond if and as appropriate. The chairman of the board (if an independent director), or the lead director (if one is appointed), or otherwise the chairman of the 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 chairman of the board (if an independent director), or the lead director (if one is appointed), or otherwise the chairman of the 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 or duplicative communications.

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

Report of the Audit Committee

The audit committee reports to and acts on behalf of the board of directors by providing oversight of the financial management, independent auditors and financial reporting controls and accounting policies and procedures of Alnylam. Our management is responsible for the preparation, presentation and integrity of our financial statements and the independent auditors are responsible for conducting an independent audit of our annual financial statements. The audit committee is responsible for independently overseeing the conduct of these activities by our management and the independent auditors. The audit committee has reviewed our audited financial statements for the fiscal year ended December 31, 2004 and has discussed these financial statements with our management and our independent auditors.

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

The audit committee and the board of directors have determined that the audit committee chairman, Kevin P. Starr, qualifies as an audit committee financial expert as defined in Item 401(h) of Regulation S-K and that he is independent as defined under Rule 10A-3 of the Securities Exchange Act of 1934 and the rules of the Nasdaq National Stock Market.

The audit committee operates under a written charter adopted by the audit committee that reflects standards contained in the rules of the Nasdaq National Stock Market. The audit committee reviews this charter annually. A complete copy of the current charter is attached to this proxy statement as Appendix A.

Statement on Auditing Standards No. 61, *Communication with Audit Committees*, as amended, issued by the Auditing Standards Boards of the American Institute of Certified Public Accountants,

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requires the independent public accounting firm to provide the audit committee with additional information regarding the scope and results of the audit, including the independent public accounting firm's responsibilities under generally accepted auditing 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.

The audit committee has discussed with the independent auditors matters required to be discussed by the applicable Auditing Standards as periodically amended. In addition, our independent auditors also provided the audit committee with the written disclosures and the letter required by Independence Standards Board Standard No. 1 (Independence Discussions with Audit Committees), and the committee and the independent auditors have discussed the auditors' independence from the Company and its management, including the matters in those written disclosures.

Based on its discussions with management and the independent auditors, and its review of the representations and information provided by management and the independent auditors, the audit committee recommended to the board of directors that the audited financial statements be included in our Annual Report on Form 10-K for the year ended December 31, 2004. The audit committee also recommended to the board of directors, and the board has approved, subject to stockholder ratification, the selection of our independent auditors.

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

Kevin P. Starr, Chairman

Paul R. Schimmel, Ph.D.

John K. Clarke

Independent Auditor's Fees

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

Fee Category	2004	2003
Audit Fees(1)	\$ 663,878	\$ 150,307
Audit-Related Fees		
Tax Fees(2)	15,465	279,657
All Other Fees(3)	1,400	
Total Fees	\$ 680,743	\$ 429,964

(1) Audit fees consist of fees for the audit of our financial statements, the review of the interim financial statements included in our quarterly reports on Form 10-Q, and other professional services provided in connection with regulatory filings or engagements. In 2004, audit fees included services in connection with our initial public offering totaling \$484,000.

(2) Tax fees consist of \$15,465 in 2004 and \$75,911 in 2003 for fees for tax compliance. In 2003, tax consultations totaled \$203,746 and were primarily related to tax matters related to the acquisition of Ribopharma AG in July 2003.

(3) All other fees represent payment for access to the PricewaterhouseCoopers on-line accounting database.

Pre-Approval Policies and Procedures

The audit committee is required to preapprove all audit services to be provided to us, whether provided by our principal independent auditors or other firms, and all other services to be provided to us

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by our independent auditors, except that de minimis non-audit services may be approved in accordance with applicable SEC rules.

Compensation of Directors

Each of our directors, other than a director who is employed by us or beneficially owns at least 1.5% of our outstanding capital stock, currently receives a fee of \$5,000 per quarter for serving on the board of directors. Each of our directors who serves as the chairman of a committee of the board of directors currently receives an additional \$5,000 per year. Directors are reimbursed for reasonable travel and other expenses incurred in connection with attending meetings of the board of directors and its committees.

Directors are also eligible to participate in our 2004 Stock Incentive Plan, which we refer to as the 2004 Plan. Pursuant to the 2004 Plan, each non-employee director is currently eligible to receive an option to purchase 7,105 shares of our common stock upon his appointment to the board. Each director who (1) is not employed by us, (2) has served as a director for at least six months, (3) does not beneficially own more than 1.5% of our outstanding capital stock and (4) attended at least 75% of the meetings of the board, including meetings of the committees on which the director served, held during the preceding year, is also currently eligible to receive an option to purchase 5,263 shares of our common stock at each year's annual meeting at which he or she serves as a director. These stock options vest in full on the first anniversary of the date of grant provided he or she is still serving as a director. Each stock option terminates upon the earlier of ten years from the date of grant and three months after the optionee ceases to serve as a director. The exercise price of these options is the fair market value of our common stock on the date of grant.

Our board of directors recently approved, subject to stockholder approval, the following cash compensation to be paid to members of our board of directors: (1) each of our non-employee directors will receive a fee of \$5,000 per quarter for serving on the board of directors, (2) each of our directors who serves as the chairman of a committee of the board of directors and the chairman of the board of directors will receive an additional \$5,000 per year for each such position held and (3) the chairman of the audit committee will receive an additional \$10,000 per year for his or her service in such position. Directors will continue to be reimbursed for reasonable travel and other expenses incurred in connection with attending meeting of the board of directors and its committees.

In addition, our board of directors recently approved, subject to stockholder approval, amendments to the 2004 Plan providing for the following equity compensation to be paid to members of our board of directors: (1) each non-employee director will receive an option to purchase 25,000 shares of our common stock upon his or her appointment to the board, (2) each non-employee director who has served as a director for at least six months will receive an option to purchase 10,000 shares of our common stock at each year's annual meeting at which he or she serves as a director, beginning with the 2005 annual meeting of stockholders, and (3) the chairman of the audit committee will receive an additional option to purchase 10,000 shares of our common stock at each year's annual meeting at which he or she serves in such position, beginning with the 2005 annual meeting of stockholders. Each stock option will terminate upon the earlier of ten years from the date of grant and three months after the optionee ceases to serve as a director. The exercise price of these options will be the fair market value of our common stock on the date of grant. The options to purchase 25,000 shares of common stock described above shall vest as to one-third of such shares on each of the first, second and third anniversaries of the date of grant, subject to the individual's continued service as a director. The options to purchase 10,000 shares of common stock described above shall vest in full on the first anniversary of the date of grant, subject to the individual's continued service as a director.

For information about the proposal relating to the compensation to be paid to our directors, see Proposal Two-Board Compensation.

Table of Contents**CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS**

On December 31, 2004, in connection with the achievement of a milestone under our Research Collaboration and License Agreement entered into in September 2003 with Merck & Co., Inc. (Merck), we issued 710,273 shares of our common stock to Merck for an aggregate purchase price of \$5,000,000.

In June 2004, we entered into a second collaboration and license agreement with Merck. The agreement is a multi-year collaboration to develop and commercialize RNAi therapeutics for ocular diseases. This collaboration will focus on AMD and other ocular diseases caused by abnormal growth or leakage of small blood vessels in the eye. Our existing program to develop a Direct RNAi therapeutic targeting VEGF for the treatment of AMD was incorporated into the new collaboration. Under the terms of the agreement, in 2004, we received a \$2.0 million license fee from Merck as well as \$1.0 million representing reimbursement of prior research and development costs we had incurred. The agreement also provides for us to work with Merck on two mutually agreed ocular targets in addition to VEGF. The parties will jointly fund the development of, and share the profits from, any RNAi therapeutics for the United States market that result from the collaboration. We will also have the option to co-promote these RNAi therapeutics in the United States. Marketing and sales outside of the United States will be conducted by Merck, with us receiving royalties.

See Information About Executive Compensation - Employment Arrangements below with respect to severance payments made in 2004 to Dr. Ulich and Mr. Conley.

INFORMATION ABOUT EXECUTIVE COMPENSATION**Executive Compensation**

The table below sets forth the total compensation paid or accrued for the fiscal years ended December 31, 2004 and 2003 to our named executive officers.

Summary Compensation Table

Name and Principal Position	Fiscal Year	Annual Compensation		Long-Term Compensation Awards	All Other Compensation (\$)
		Salary (\$)	Bonus (\$)	Number of Securities Underlying Options Granted (#)	
John M. Maraganore, Ph.D. <i>President and Chief Executive Officer</i>	2004	370,000		578,947	
	2003	369,398	110,000	417,367	
Barry E. Greene <i>Chief Operating Officer and Treasurer(1)</i>	2004	260,000		97,822	
	2003	53,333	58,813	131,578	
Vincent J. Miles, Ph.D. <i>Senior Vice President, Business Development</i>	2004	237,115	44,459	67,893	
	2003	107,716	44,975	78,947	
Thomas R. Ulich, M.D. <i>Former Senior Vice President, Research and Development(2)</i>	2004	183,003		23,684	130,717
	2003	157,403	46,113	157,894	43,462
John G. Conley	2004	21,667			130,000
	2003	259,453	55,250		

*Former Chief Financial Officer
and Vice
President, Finance and
Strategy(3)*

- (1) Mr. Greene commenced employment with Alnylam on October 20, 2003. The amount indicated under the heading **Bonus** for the year 2003 consists of a bonus of \$45,000 that Mr. Greene received upon commencement of employment with us, which is required to be paid back in full if his

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employment is terminated within 18 months of commencement of employment, and a bonus of \$13,813 that Mr. Greene received, which represents a pro-rated year-end bonus.

- (2) Dr. Ulich left the employment of Alnylam, effective July 30, 2004. Alnylam agreed to pay Dr. Ulich eleven months of severance which will total \$287,577 and is paid bi-monthly over such eleven month period. If Dr. Ulich obtains alternative employment prior to June 30, 2005, such payments will cease, but he will receive a single lump-sum payment, equal to 50% of the severance he would have been entitled to receive for the period between the commencement of his new employment and June 30, 2005. The amount indicated under the heading **All Other Compensation** for the year 2004 represents such severance payments made during 2004. The amount indicated under the heading **All Other Compensation** for the year 2003 represents reimbursement of relocation expenses and related taxes.
- (3) Mr. Conley resigned from Alnylam effective January 31, 2004. The amount indicated under the heading **All Other Compensation** for the year 2004 represents severance payments made to Mr. Conley from February 1, 2004 through July 31, 2004.

Option Grants in Last Fiscal Year

The following table sets forth certain information concerning grants of stock options to purchase shares of our common stock made to our named executive officers during the fiscal year ended December 31, 2004.

Option Grants in Last Fiscal Year

Name	Number of Securities Underlying Options Granted (#)(1)	Percent of Total Options Granted to Employees in Fiscal Year	Exercise Price (\$/sh)(2)	Expiration Date	Potential Realizable Value at Assumed Annual Rates of Stock Price Appreciation for Option Term(3)	
					5% (\$)	10% (\$)
John M. Maraganore, Ph.D.	73,684	4.8%	\$ 0.95	1/6/14	\$ 44,023	\$ 111,562
	105,263	6.8%	0.95	1/6/14	62,889	159,374
	150,000	9.7%	6.78	12/7/14	639,586	1,620,836
	250,000(4)	16.2%	7.47	12/21/14	1,174,461	2,976,314
Barry E. Greene	7,894	0.5%	0.95	1/6/14	4,716	11,952
	14,928	1.0%	0.95	4/26/14	8,919	22,602
	75,000	4.9%	6.78	12/7/14	319,793	810,418
Vincent J. Miles, Ph.D.	6,578	0.4%	0.95	1/6/14	3,930	9,959
	13,157	0.9%	0.95	4/26/14	7,861	19,920
	13,158	0.9%	5.23	8/5/14	43,278	109,676
	35,000	2.3%	6.78	12/7/14	149,237	378,195
Thomas R. Ulich, M.D.	23,684	1.5%	0.95	1/6/14	14,150	35,859
John G. Conley						

(1)

Stock options granted to our executive officers under our 2003 Employee, Director and Consultant Stock Plan generally vest as to 25% of the shares on the first anniversary of the vesting commencement date established by the board of directors and as to an additional 6.25% of the shares on the last day of each calendar quarter thereafter. Stock options granted to our executive officers under our 2004 Plan generally vest as to 25% of the shares on the first anniversary of the vesting commencement date established by the board of directors and as to an additional 6.25% of the shares on the last day of each successive three-month period thereafter.

- (2) The exercise price per share was determined to be equal to the fair market value per share of common stock on the date of grant.
- (3) Amounts represent hypothetical gains that could be achieved for stock options if exercised at the end of the option term. These gains are based on assumed rates of stock price appreciation of 5% and 10%

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compounded annually from the date stock options are granted. Actual gains, if any, on stock option exercises will depend on the future performance of our common stock on the date on which the stock options are exercised.

- (4) On December 21, 2004, the compensation committee granted to Dr. Maraganore an option to purchase up to 250,000 shares, which vests upon our attainment of a corporate goal. The compensation committee will recommend to the board of directors whether the corporate goal has been attained and the number of shares as to which the option vests upon such attainment.

Aggregated Option Exercises and Fiscal Year-End Option Value Table

The following table sets forth certain information regarding the exercise of stock options during the fiscal year ended December 31, 2004 and the number and value of unexercised options held as of December 31, 2004 by our named executive officers.

**Aggregated Option Exercises in Last Fiscal Year
and Fiscal Year-End Option Values**

Name	Shares Acquired on Exercise (#)	Value Realized \$(1)	Number of Securities	Value of Unexercised
			Underlying Unexercised Options at Fiscal Year-End (#)	In-the-Money Options at Fiscal Year-End \$(3)
			Exercisable/Unexercisable(2)	Exercisable/Unexercisable
John M. Maraganore, Ph.D.			352,070/644,244	\$ 2,412,730/\$1,776,987
Barry E. Greene	52,631		/188,282	/\$790,349
Vincent J. Miles			29,605/117,235	\$ 207,087/\$527,443
Thomas R. Ulich, M.D.	49,342	\$ 238,569		
John G. Conley				

- (1) Value represents the difference between the exercise price per share and the fair market value per share of our common stock on the date of exercise, multiplied by the number of shares acquired on exercise.
- (2) All stock options granted by us prior to the completion of our initial public offering were subject to a right of early exercise, pursuant to which an optionee could exercise unvested stock options for shares of restricted stock. However, for purposes of this table, only vested options that are exercisable have been included as exercisable.
- (3) Value is based on the difference between the closing sale price per share of our common stock on December 31, 2004, the last trading day of the fiscal year ended December 31, 2004 (\$7.47), and the applicable option exercise price, multiplied by the number of shares subject to the option.

Employment Arrangements

We have entered into agreements with Dr. Maraganore and Mr. Greene regarding their employment with us. Dr. Maraganore's agreement provides that, if he is employed upon a change in control of Alnylam, all options held by Dr. Maraganore will vest and become immediately exercisable. Mr. Greene's agreement provides that, if he is employed upon a change in control of Alnylam, all options held by Mr. Greene will vest and become immediately exercisable.

Each executive officer has signed a nondisclosure, invention and non-competition agreement providing for the protection of our confidential information and ownership of intellectual property developed by such executive officer and a one-year non-compete provision.

Dr. Ulich left the employment of Alnylam, effective July 30, 2004 and we agreed to pay Dr. Ulich eleven months of severance which will total \$287,577 and is paid bi-monthly over such eleven-month period. If Dr. Ulich obtains alternative employment prior to June 30, 2005, such payments will cease, but

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he will receive a single lump-sum payment, equal to 50% of the severance he would have been entitled to receive for the period between the commencement of his new employment and June 30, 2005.

Mr. Conley resigned from Alnylam effective January 31, 2004. Mr. Conley was paid \$130,000 during 2004 representing severance payments made to Mr. Conley from February 1, 2004 through July 31, 2004.

Securities Authorized for Issuance Under Equity Compensation Plans

The following table provides information as of December 31, 2004 about the securities authorized for issuance under our equity compensation plans, consisting of our 2002 Employee, Director and Consultant Stock Option Plan, our 2003 Employee, Director and Consultant Stock Option Plan, our 2004 Plan and our 2004 Employee Stock Purchase Plan. All of our equity compensation plans were adopted with the approval of our stockholders, other than warrants issued to Lighthouse Capital Partners V, L.P. (Lighthouse) and an affiliate of Lighthouse, as described below.

Equity Compensation Plan Information

Plan Category	Number of Securities to Be Issued Upon Exercise of Outstanding Options, Warrants and Rights	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a))(1)
	(a)	(b)	(c)
Equity compensation plans approved by stockholders	2,851,967	\$ 2.91	1,199,834
Equity compensation plans not approved by stockholders	52,630(2)	\$ 9.50	
Total:	2,904,597	\$ 3.02	1,199,834

(1) Includes 884,045 shares of our common stock available for future issuance under our 2004 Plan and 315,789 shares of our common stock available for future issuance under our 2004 Employee Stock Purchase Plan. No shares of our common stock were available for issuance under our 2002 Employee, Director and Consultant Stock Option Plan or our 2003 Employee, Director and Consultant Stock Option Plan as of December 31, 2004. On January 1, 2005, and in accordance with the provisions of the 2004 Plan, the number of shares available for issuance under the 2004 Plan was automatically increased by 1,042,442 shares.

(2) Consists of warrants to purchase 52,630 shares of our common stock at an exercise price of \$9.50 per share and a term of seven years issued to Lighthouse and an affiliate of Lighthouse in connection with an agreement with Lighthouse to establish an equipment line of credit for \$10.0 million.

Report of the Compensation Committee on Executive Compensation

Our executive compensation program is administered by the compensation committee of our board of directors which is currently composed of three non-employee directors.

Our executive compensation program is designed to attract, retain and reward executives who can help us achieve our business objectives and thereby maximize stockholder returns. The compensation committee establishes compensation policies for Dr. Maraganore, our president and chief executive officer, and all other executive officers. All decisions by the compensation committee relating to the compensation of our executive officers are reviewed by our full board of directors.

This report is submitted by the compensation committee and addresses the compensation policies for 2004 as they affected Dr. Maraganore, our president and chief executive officer, and our other executive officers.

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Compensation Philosophy

The objectives of the executive compensation program are to align the interests of management with the interests of stockholders through a system that relates compensation to business objectives and individual performance. Our executive compensation philosophy is based on the following principles:

Competitive and Fair Compensation

We are committed to providing an executive compensation program that helps us to attract, motivate and retain highly qualified executives. Our policy is to provide total compensation that is competitive for comparable work and comparable corporate performance. To this end, we regularly compare our compensation packages with those of other companies in the industry and set our compensation guidelines based on this review. We also seek to achieve a balance of the compensation paid to a particular individual and the compensation paid to our other executives and employees.

Sustained Performance

Executive officers are rewarded based upon an assessment of corporate and individual performance. Corporate performance is evaluated by reviewing the extent to which strategic and business plan goals are met, including such factors as achievement of operating budgets, establishment of strategic development alliances with third parties, timely development of new processes and product candidates and performance relative to competitors. Individual performance is evaluated by reviewing attainment of specified individual objectives and the degree to which teamwork and our other values are fostered.

In evaluating each executive officer's performance, we generally conform to the following process:
business and individual goals and objectives are set for each performance cycle,

at the end of the performance cycle, the accomplishment of the executive's goals and objectives and his/her contributions to Alnylam are evaluated,

the executive's performance is then compared with peers within Alnylam and the results are communicated to the executive, and

the comparative results, combined with comparative compensation practices of other companies in the industry, are then used to determine salary and stock compensation levels.

Annual compensation for our executives in 2004 generally consisted of two elements: salary and stock options. Dr. Maraganore and Mr. Greene elected to opt out of our cash bonus program for 2004. Officers who opted out of the bonus program were eligible to receive increased option grants during 2004. A bonus totaling approximately \$44,000 was paid to Dr. Miles for 2004.

Salary for our executives is generally set by reviewing compensation for comparable positions in the market and the historical compensation levels of our executives. Increases in annual salaries are based on actual corporate and individual performance vis-à-vis targeted performance criteria and various subjective performance criteria. Targeted performance criteria vary for each executive based on his area of responsibility, and may include:

achievement of our operating budget,

continued innovation in development and commercialization of our technology,

timely development of new product candidates or processes, and

implementation of financing strategies and establishment of strategic development alliances with third parties.

Subjective performance criteria include an executive's ability to motivate others, provide leadership to help the organization grow as we mature, recognize and pursue new business opportunities and initiate programs to enhance our growth and success. The compensation committee does not rely on a formula

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that assigns a pre-determined value to each of the criteria, but instead evaluates an executive officer's contribution in light of all criteria.

Compensation for executive officers also includes the long-term incentives afforded by stock options. Our stock option program is designed to align the long-term interests of our employees and our stockholders and assist in the retention of executives. The size of option grants is generally intended to reflect the executive's position with us and his/her contributions to us, including his/her success in achieving the individual performance criteria described above. We generally grant options with annual vesting schedules over a four-year period to encourage key employees to continue their employment with us. During 2004, we granted stock options to purchase an aggregate of 768,346 shares of our common stock to executive officers at a weighted-average exercise price of \$5.12 per share. All stock options granted to executive officers during 2004 were granted at fair market value on the date of grant.

Executive officers who are not considered highly compensated individuals within the meaning of Section 414(q) of the Internal Revenue Code are also eligible to participate in our employee stock purchase plan. The purchase plan is available to virtually all of our employees and generally permits participants to purchase shares of our common stock at a discount of 15% from the fair market value at the beginning or end of the applicable purchase periods permitted under the purchase plan.

Compliance with Internal Revenue Code Section 162(m)

Section 162(m) of the Internal Revenue Code generally disallows a tax deduction to a public company for compensation over \$1 million paid to the company's chief executive officer and four other most highly compensated executive officers. Qualifying performance-based compensation will not be subject to the deduction limit if certain requirements are met. In general, the company structures and administers its stock incentive plans in a manner intended to comply with the performance-based exception to Section 162(m). Nevertheless, there can be no assurance that compensation attributable to awards granted under our stock incentive plans will be exempt from Section 162(m) as qualified performance-based compensation. In addition, the compensation committee has the authority to authorize compensation payments that may be subject to the limit where the compensation committee believes that such payments are appropriate and in the best interests of our Company and our stockholders, after taking into consideration changing business conditions and the performance of our officers.

Dr. Maraganore's 2004 Compensation

Dr. Maraganore is eligible to participate in the same executive compensation plans available to our other executive officers. The compensation committee believes that Dr. Maraganore's annual compensation, including the portion of his compensation based upon our stock option program, has been set at a level competitive with other companies in the industry.

Dr. Maraganore declined a salary increase at the end of 2004 and his salary will remain at \$370,000 for 2005. Dr. Maraganore elected to opt out of our bonus program for 2004 and as a result, was eligible to receive increased option grants. During 2004, Dr. Maraganore was granted stock options to purchase an aggregate of 578,947 shares of our common stock at a weighted-average exercise price of \$5.28. This includes an option grant made on December 21, 2004 for up to 250,000 shares which vests upon attainment of a corporate goal in 2005 as recommended by the compensation committee and approved by the board of directors.

In determining Dr. Maraganore's compensation, the compensation committee considered, among other things, his leadership that enabled us to meet our business objectives in the areas of: preclinical milestones, scientific success, establishing business alliances and achieving financial goals. In addition, the committee reviewed Dr. Maraganore's overall compensation package relative to that of several other chief executives at biotechnology companies of similar size, financial resources and stage of development.

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

Peter Barrett, Ph.D., Chairman

Phillip A. Sharp, Ph.D.

John E. Berriman

Compensation Committee Interlocks and Insider Participation

None of our executive officers served as a member of the board of directors or compensation committee (or other committee serving an equivalent function) of any other entity while an executive officer of that other entity served as a member of our board of directors or compensation committee. None of the current members of our compensation committee has ever been an employee of Alnylam.

Table of Contents**Comparative Stock Performance Graph**

The comparative stock performance graph below compares the cumulative total stockholder return (assuming reinvestment of dividends, if any) from investing \$100 on May 28, 2004, the date on which our common stock was first publicly traded, and plotted at the close of the last trading day of 2004, in each of (i) our common stock, (ii) the Nasdaq National Stock Market Index of U.S. Companies, which we refer to as the Nasdaq Stock Market (U.S.), and (iii) the Nasdaq National Stock Market Pharmaceutical Index, which we refer to as the Nasdaq Pharmaceutical Index.

COMPARISON OF CUMULATIVE TOTAL RETURN*
AMONG ALNYLAM PHARMACEUTICALS, INC.,
NASDAQ STOCK MARKET (U.S.) AND NASDAQ PHARMACEUTICAL INDEX

	Measurement Period (Fiscal Year Covered)	
	5/28/04	12/31/04
Alnylam Pharmaceuticals, Inc.	\$100.00	\$124.29
Nasdaq Stock Market (U.S.)	\$100.00	\$109.70
Nasdaq Pharmaceutical Index	\$100.00	\$103.31

* \$100 invested on May 28, 2004 in our common stock, the Nasdaq Stock Market (U.S.) or the Nasdaq Pharmaceutical Index, including reinvestment of dividends.

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PROPOSAL TWO BOARD COMPENSATION

Board Recommendation

The board of directors recommends a vote FOR the compensation to be paid to members of our board of directors described below.

Our board of directors recently approved, subject to stockholder approval, the following cash compensation to be paid to members of our board of directors:

\$5,000 per fiscal quarter to each non-employee member of our board of directors;

an additional \$5,000 per year to each individual serving as the chairman of the board of directors or as the chairman of the audit committee, compensation committee or nominating and corporate governance committee of the board of directors; and

an additional \$10,000 per year to the chairman of the audit committee of the board of directors.

Our board of directors also approved, subject to stockholder approval, amendments to the 2004 Plan, to provide for changes to the equity compensation to be paid to members of our board of directors as follows:

Upon the commencement of service on the board by any individual who is not then an employee of us or any of our subsidiaries, we will grant to such person a nonstatutory stock option to purchase 25,000 shares of our common stock;

On the date of each annual meeting of stockholders beginning with the 2005 annual meeting of stockholders, we will grant a nonstatutory stock option to purchase 10,000 shares of our common stock to each member of the board (1) who is both serving as a director immediately prior to and immediately following such annual meeting, (2) who is not then an employee of us or any of our subsidiaries; and (3) who has served as a director for at least six months; and

On the date of each annual meeting of stockholders beginning with the 2005 annual meeting of stockholders, we will grant a nonstatutory stock option to purchase 10,000 shares of our common stock to the chairman of the audit committee of the board of directors.

These options will (i) have an exercise price equal to the last reported sale price of the common stock on the Nasdaq Stock Market or the national securities exchange on which our common stock is traded on the date of grant (and if our common stock is not then traded on the Nasdaq Stock Market or a national securities exchange, the fair market value of our common stock on such date as determined by the board), (ii) expire on the earlier of 10 years from the date of grant or three months following termination of service as a director and (iii) contain such other terms and conditions as the board shall determine. The options to purchase 25,000 shares of common stock described above shall vest as to one-third of the shares on each of the first, second and third anniversaries of the date of grant, subject to the individual's continued service as a director. The options to purchase 10,000 shares of common stock described above shall vest in full on the first anniversary of the date of grant, subject to the individual's continued service as a director. The board retains the specific authority to from time to time increase or decrease the number of shares subject to options granted under these provisions.

Our board of directors reviewed the current compensation of the board and the proposed compensation described in this proposal, which had been approved by the compensation committee of the board based on a review of industry sources, and approved the compensation described in this proposal, subject to stockholder approval. Although stockholder approval of the cash compensation to be paid to our directors is not required by law, the board of directors believes that it is advisable to give stockholders the opportunity to approve such cash compensation. Stockholder approval of the amendments to the 2004 Plan, which amendments provide the equity compensation to be paid to our directors, is required under Nasdaq National Market rules. If the compensation described in this proposal is not approved at our 2005 annual meeting of stockholders, our board will reconsider the proposed compensation.

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Summary of 2004 Stock Incentive Plan

The following is a brief summary of the 2004 Plan. The following summary is qualified in its entirety by reference to the 2004 Plan, a copy of which is attached as an appendix to the electronic copy of this proxy statement filed with the SEC and, may be accessed from the Securities and Exchange Commission's Internet home page (www.sec.gov). In addition, a copy of the 2004 Plan can be obtained from our Corporate Secretary.

Shares Subject to the 2004 Plan

As of March 1, 2005, 2,552,959 shares of common stock were authorized for issuance under the 2004 Plan. In addition, the 2004 Plan provides for an annual increase in the number of shares available for issuance under the 2004 Plan equal to the lesser of 2,631,578 shares of our common stock, 5% of our outstanding shares or an amount determined by the board. The number of shares issuable under our 2004 Plan will also increase automatically and without further action by the number of shares subject to awards granted under our 2002 Employee, Director and Consultant Stock Plan and our 2003 Employee, Director and Consultant Stock Plan that expire, terminate or are otherwise surrendered, canceled, forfeited or repurchased by us at their original issuance price pursuant to a contractual repurchase right. However, in no event will the number of shares issuable under the 2004 Plan, together with the number of shares available for issuance under all other employee and director stock plans, exceed 25% of our outstanding shares on January 1 of any year. We may not issue more than 13,157,894 shares of common stock under the 2004 Plan pursuant to awards other than options.

On March 1, 2005, the last reported sale price of our common stock on the NASDAQ National Market was \$6.99 per share.

Description of Awards

Our 2004 Plan provides for the grant of options intended to qualify as incentive stock options under Section 422 of the Internal Revenue Code, nonstatutory stock options and restricted stock awards.

Optionees receive the right to purchase a specified number of shares of common stock at a specified option price and subject to any other terms and conditions specified in connection with the option grant at an exercise price equal to or greater than the fair market value of our common stock on the date of grant. Under present law, incentive stock options and options intended to qualify as performance-based compensation under Section 162(m) of the Internal Revenue Code may not be granted to optionees holding more than 10% of the voting power of all shares of our capital stock at an exercise price less than 110% of the fair market value of our common stock on the date of grant. The 2004 Plan permits our board of directors to determine how optionees may pay the exercise price of their options, including through payment by cash, check, surrender to us of shares of common stock owned for at least six months or by any combination of the permitted forms of payment. In addition, at the discretion of the board of directors, under the 2004 Plan, options may be exercised by delivery to us of an irrevocable undertaking of a creditworthy broker to promptly deliver the exercise price to us.

Individuals who are granted restricted stock awards receive the right to acquire a specified number of shares of common stock, subject to our right to repurchase all or part of such shares at their issue price or other stated or formula price, or subject to forfeiture of such shares if issued at no cost, in the event that conditions specified in the applicable restricted stock award are not satisfied prior to the end of the applicable restriction period or periods.

The 2004 Plan provides that in the event of a merger or other acquisition event, the compensation committee is authorized, in its discretion, to take one or more of the following actions:

provide for outstanding options or other awards to be assumed or substituted for by the acquiring or succeeding entity;

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provide that unexercised options or other awards will become exercisable in full and will terminate immediately prior to the consummation of such transaction unless previously exercised;

provide that outstanding awards shall become realizable or deliverable, or restrictions applicable to an award shall lapse;

provide for per share cash payment to the optionees equal to the cash per share received by the holders of common stock less the exercise price per share of such option or other award; or

provide that, in connection with a liquidation or dissolution of Alnylam, awards shall convert into the right to receive liquidation proceeds.

Our rights under the terms of outstanding restricted stock granted under the 2004 Plan will inure to the benefit of the surviving or succeeding entity and will continue to apply to any cash or other property into which shares were convertible as a result of such transaction.

Eligibility to Receive Awards

Our employees, officers, directors, consultants and advisors are eligible to receive awards under the 2004 Plan. Under present law, however, incentive stock options may only be granted to employees, including officers. The maximum number of shares with respect to which awards may be granted to any participant under the 2004 Plan may not exceed 526,315 shares per calendar year.

As of March 1, 2005, approximately 90 persons were eligible to receive awards under the 2004 Plan, including the three named executive officers who were employed by us on that date and six non-employee directors. The granting of awards under the 2004 Plan is discretionary, except for the option grants to non-employee directors described above, and we cannot now determine the number or type of awards to be granted in the future to any particular person or group, except for the option grants to non-employee directors described above.

Administration

The compensation committee of our board of directors administers the 2004 Plan. The compensation committee has the authority to grant awards, including awards to executive officers, and to adopt, amend and repeal the administrative rules, guidelines and practices relating to the 2004 Plan of and to interpret the provisions of the 2004 Plan. In addition, our board of directors may delegate authority under the 2004 Plan to one or more of our executive officers. Subject to any applicable limitations contained in the 2004 Plan, our compensation committee, or if applicable, one or more executive officers to whom authority has been granted under the 2004 Plan, selects the recipients of awards and determines:

the number of shares of common stock covered by options and the dates upon which such option become exercisable;

the exercise price of options;

the duration of options;

the conditions and limitations applicable to the exercise of each option; and

the number of shares of common stock subject to any restricted stock award and the terms and conditions of such awards.

Amendment and Termination

Our 2004 Plan is effective for ten years following adoption by our board of directors, which occurred on March 30, 2004, unless previously terminated. Pursuant to its terms, no awards may be granted under the 2004 Plan after March 29, 2014, but the vesting and effectiveness of awards previously granted may extend beyond that date.

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Our compensation committee may at any time modify, amend or terminate the 2004 Plan or any portion thereof. However, any amendment requiring stockholder approval under any applicable legal, regulatory or listing requirement shall not become effective until stockholder approval is obtained.

Federal Income Tax Consequences

The following is a summary of the United States federal income tax consequences that generally will arise with respect to awards granted under the 2004 Plan. This summary is based on the federal tax laws in effect as of the date of this proxy statement. In addition, this summary assumes that all awards are exempt from, or comply with, the rules under Section 409A of the Code regarding nonqualified deferred compensation. Changes to these laws could alter the tax consequences described below.

Incentive Stock Options

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

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

Nonstatutory Stock Options

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

Restricted Stock Awards

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

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Tax Consequences to Alnylam

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

PROPOSAL THREE RATIFICATION OF APPOINTMENT OF INDEPENDENT AUDITORS

Board Recommendation

The board of directors recommends a vote FOR the ratification of the appointment of PricewaterhouseCoopers LLP as our independent auditors for the fiscal year ending December 31, 2005.

Our board of directors has appointed the firm of PricewaterhouseCoopers LLP, an independent registered public accounting firm, as independent auditors for the fiscal year ending December 31, 2005. Although stockholder approval of the board of directors' appointment of PricewaterhouseCoopers LLP is not required by law, our board of directors 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 of directors 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.

OTHER MATTERS

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

SOLICITATION OF PROXIES

The cost of solicitation of proxies will be borne by Alnylam. In addition to the solicitation of proxies by mail, officers and employees of Alnylam may solicit proxies in person or by telephone. We have also retained The Altman Group 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 will pay a fee of \$5,500 plus expenses. We may reimburse brokers or persons holding stock in their names, or in the names of their nominees, for their expenses in sending proxies and proxy material to beneficial owners.

STOCKHOLDER PROPOSALS

In order to be included in proxy material for the 2006 annual meeting of stockholders, stockholders' proposals must be received by us at our principal executive offices, 300 Third Street, Cambridge, Massachusetts 02142 no later than December 29, 2005. We suggest that proponents submit their proposals by certified mail, return receipt requested, addressed to our Corporate Secretary.

In addition, our by-laws require that we be given advance notice of stockholder nominations for election to the board of directors and of other matters which stockholders wish to present for action at an annual meeting of stockholders, other than matters included in our proxy statement. The required notice must be in writing and received by our corporate secretary at our principal offices not later than March 10, 2006 (90 days prior to the first anniversary of our 2005 Annual Meeting of Stockholders) and not before February 8, 2006 (120 days prior to the first anniversary of our 2005 Annual Meeting of Stockholders). However, if the 2006 Annual Meeting of Stockholders is advanced by more than 20 days, or delayed by

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more than 60 days, from the first anniversary of the 2005 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 by-laws also specify requirements relating to the content of the notice which stockholders must provide, including a stockholder nomination for election to the board of directors, to be properly presented at the 2006 annual meeting of stockholders.

By Order of the Board of Directors,

JOHN M. MARAGANORE, Ph.D.
President and Chief Executive Officer

Cambridge, Massachusetts
April 28, 2005

OUR BOARD OF DIRECTORS HOPES THAT STOCKHOLDERS WILL ATTEND THE ANNUAL MEETING. WHETHER OR NOT YOU PLAN TO ATTEND THE ANNUAL MEETING IN PERSON, PLEASE COMPLETE, DATE, SIGN AND PROMPTLY RETURN THE ENCLOSED PROXY CARD IN THE ENCLOSED ENVELOPE OR SUBMIT A PROXY BY TELEPHONE OR THROUGH THE INTERNET AS DESCRIBED IN THE ENCLOSED PROXY CARD. A PROMPT RESPONSE WILL GREATLY FACILITATE ARRANGEMENTS FOR THE MEETING AND YOUR COOPERATION WILL BE APPRECIATED. STOCKHOLDERS WHO ATTEND THE MEETING MAY VOTE THEIR STOCK PERSONALLY EVEN THOUGH THEY HAVE SUBMITTED A PROXY PREVIOUSLY.

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Appendix A

**ALNYLAM PHARMACEUTICALS, INC.
AUDIT COMMITTEE CHARTER
(Adopted March 30, 2004)**

A. Purpose

1. The purpose of the Audit Committee of the Board of Directors of the Company is to assist the Board of Directors oversight of the Company's accounting and financial reporting processes and the audits of the Company's financial statements.

B. Structure and Membership

1. *Number.* Except as otherwise permitted by the applicable rules of The NASDAQ National Market, the Audit Committee shall consist of at least three members of the Board of Directors.

2. *Independence.* Except as otherwise permitted by the applicable NASDAQ rules, each member of the Audit Committee shall be independent as defined by NASDAQ rules, meet the criteria for independence set forth in Rule 10A-3(b)(1) under the Exchange Act (subject to the exemptions provided in Rule 10A-3(c)), and not have participated in the preparation of the financial statements of the Company or any current subsidiary of the Company at any time during the past three years.

3. *Financial Literacy.* Each member of the Audit Committee must be able to read and understand fundamental financial statements, including the Company's balance sheet, income statement, and cash flow statement, at the time of his or her appointment to the Audit Committee. In addition, at least one member must have past employment experience in finance or accounting, requisite professional certification in accounting, or any other comparable experience or background which results in the individual's financial sophistication, including being or having been a chief executive officer, chief financial officer or other senior officer with financial oversight responsibilities. Unless otherwise determined by the Board of Directors (in which case disclosure of such determination shall be made in the Company's annual report filed with the SEC), at least one member of the Audit Committee shall be an audit committee financial expert (as defined by applicable SEC rules).

4. *Chair.* Unless the Board of Directors elects a Chair of the Audit Committee, the Audit Committee shall elect a Chair by majority vote.

5. *Compensation.* The compensation of Audit Committee members shall be as determined by the Board of Directors. No member of the Audit Committee may receive, directly or indirectly, any consulting, advisory or other compensatory fee from the Company or any of its subsidiaries, other than fees paid in his or her capacity as a member of the Board of Directors or a committee of the Board.

6. *Selection and Removal.* Members of the Audit Committee shall be appointed by the Board of Directors, upon the recommendation of the Nominating and Corporate Governance Committee. The Board of Directors may remove members of the Audit Committee from such committee, with or without cause.

C. Authority and Responsibilities

General

The Audit Committee shall discharge its responsibilities, and shall assess the information provided by the Company's management and the independent auditor, in accordance with its business judgment. Management is responsible for the preparation, presentation, and integrity of the Company's financial statements and for the appropriateness of the accounting principles and reporting policies that are used by the Company. The independent auditors are responsible for auditing the Company's financial statements

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and for reviewing the Company's unaudited interim financial statements. The authority and responsibilities set forth in this Charter do not reflect or create any duty or obligation of the Audit Committee to plan or conduct any audit, to determine or certify that the Company's financial statements are complete, accurate, fairly presented, or in accordance with generally accepted accounting principles or applicable law, or to guarantee the independent auditor's report.

Oversight of Independent Auditors

1. *Selection.* The Audit Committee shall be solely and directly responsible for appointing, evaluating, retaining and, when necessary, terminating the engagement of the independent auditor. The Audit Committee may, in its discretion, seek stockholder ratification of the independent auditor it appoints.

2. *Independence.* The Audit Committee shall take, or recommend that the full Board of Directors take, appropriate action to oversee the independence of the independent auditor. In connection with this responsibility, the Audit Committee shall obtain and review a formal written statement from the independent auditor describing all relationships between the auditor and the Company, including the disclosures required by Independence Standards Board Standard No. 1. The Audit Committee shall actively engage in dialogue with the auditor concerning any disclosed relationships or services that might impact the objectivity and independence of the auditor, and confirm the regular rotation of the lead audit partner and reviewing partner as required by Section 203 of the Sarbanes-Oxley Act.

3. *Compensation.* The Audit Committee shall have sole and direct responsibility for setting the compensation of the independent auditor. The Audit Committee is empowered, without further action by the Board of Directors, to cause the Company to pay the compensation of the independent auditor established by the Audit Committee.

4. *Preapproval of Services.* The Audit Committee shall preapprove all audit services to be provided to the Company, whether provided by the principal auditor or other firms, and all other services (review, attest and non-audit) to be provided to the Company by the independent auditor; provided, however, that de minimis non-audit services may instead be approved in accordance with applicable SEC rules.

5. *Oversight.* The independent auditor shall report directly to the Audit Committee, and the Audit Committee shall have sole and direct responsibility for overseeing the work of the independent auditor, including resolution of disagreements between Company management and the independent auditor regarding financial reporting. In connection with its oversight role, the Audit Committee shall, from time to time as appropriate, receive and consider the reports required to be made by the independent auditor regarding:

critical accounting policies and practices;

alternative treatments within generally accepted accounting principles for policies and practices related to material items that have been discussed with Company management, including ramifications of the use of such alternative disclosures and treatments, and the treatment preferred by the independent auditor; and

other material written communications between the independent auditor and Company management.

Audited Financial Statements

6. *Review and Discussion.* The Audit Committee shall review and discuss with the Company's management and independent auditor the Company's audited financial statements, including the matters about which Statement on Auditing Standards No. 61 (Codification of Statements on Auditing Standards, AU §380) requires discussion.

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7. Recommendation to Board Regarding Financial Statements. The Audit Committee shall consider whether it will recommend to the Board of Directors that the Company's audited financial statements be included in the Company's Annual Report on Form 10-K.

8. Audit Committee Report. The Audit Committee shall prepare an annual committee report for inclusion where necessary in the proxy statement of the Company relating to its annual meeting of security holders.

Review of Other Financial Disclosures

9. Independent Auditor Review of Interim Financial Statements. The Audit Committee shall direct the independent auditor to use its best efforts to perform all reviews of interim financial information prior to disclosure by the Company of such information and to discuss promptly with the Audit Committee and the Chief Financial Officer any matters identified in connection with the auditor's review of interim financial information which are required to be discussed by applicable auditing standards. The Audit Committee shall direct management to advise the Audit Committee in the event that the Company proposes to disclose interim financial information prior to completion of the independent auditor's review of interim financial information.

Controls and Procedures

10. Oversight. The Audit Committee shall coordinate the Board of Directors' oversight of the Company's internal control over financial reporting, disclosure controls and procedures and code of conduct. The Audit Committee shall receive and review the reports of the principal executive officer and principal financial officer required by Rule 13a-14 of the Exchange Act.

11. Internal Audit Function. The Audit Committee shall coordinate the Board of Director's oversight of the performance of the Company's internal audit function.

12. Evaluation of Financial Management. The Audit Committee shall coordinate with the Compensation Committee the evaluation of the Company's financial management personnel.

13. Procedures for Complaints. The Audit Committee shall establish procedures for (i) the receipt, retention and treatment of complaints received by the Company regarding accounting, internal accounting controls or auditing matters; and (ii) the confidential, anonymous submission by employees of the Company of concerns regarding questionable accounting or auditing matters.

14. Related-Party Transactions. The Audit Committee shall review all related party transactions (defined as transactions required to be disclosed pursuant to Item 404 of Regulation S-K) on an ongoing basis, and all such transactions must be approved by the Audit Committee.

15. Additional Powers. The Audit Committee shall have such other duties as may be delegated from time to time by the Board of Directors.

D. Procedures and Administration

1. Meetings. The Audit Committee shall meet as often as it deems necessary in order to perform its responsibilities. The Audit Committee may also act by unanimous written consent in lieu of a meeting. The Audit Committee shall periodically meet separately with: (i) the independent auditor; (ii) the Company management; and (iii) the Company's internal auditors. The Audit Committee shall keep such records of its meetings as it shall deem appropriate.

2. Subcommittees. The Audit Committee may form and delegate authority to one or more subcommittees (including a subcommittee consisting of a single member), as it deems appropriate from time to time under the circumstances. Any decision of a subcommittee to preapprove audit, review, attest or non-audit services shall be presented to the full Audit Committee at its next scheduled meeting.

3. Reports to Board. The Audit Committee shall report regularly to the Board of Directors.

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4. Charter. At least annually, the Audit Committee shall review and reassess the adequacy of this Charter and recommend any proposed changes to the Board of Directors for approval.

5. Independent Advisors. The Audit Committee is authorized, without further action by the Board of Directors, to engage such independent legal, accounting and other advisors as it deems necessary or appropriate to carry out its responsibilities. Such independent advisors may be the regular advisors to the Company. The Audit Committee is empowered, without further action by the Board of Directors, to cause the Company to pay the compensation of such advisors as established by the Audit Committee.

6. Investigations. The Audit Committee shall have the authority to conduct or authorize investigations into any matters within the scope of its responsibilities as it shall deem appropriate, including the authority to request any officer, employee or advisor of the Company to meet with the Audit Committee or any advisors engaged by the Audit Committee.

7. Funding. The Audit Committee is empowered, without further action by the Board of Directors, to cause the Company to pay the ordinary administrative expenses of the Audit Committee that are necessary or appropriate in carrying out its duties.

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Appendix B

**ALNYLAM PHARMACEUTICALS, INC.
2004 STOCK INCENTIVE PLAN**

1. Purpose

The purpose of this 2004 Stock Incentive Plan (the Plan) of Alnylam Pharmaceuticals, Inc., a Delaware corporation (the Company), is to advance the interests of the Company's stockholders by enhancing the Company's ability to attract, retain and motivate persons who make (or are expected to make) important contributions to the Company by providing such persons with equity ownership opportunities and performance-based incentives and thereby better aligning the interests of such persons with those of the Company's stockholders. Except where the context otherwise requires, the term Company shall include any of the Company's present or future parent or subsidiary corporations as defined in Sections 424(e) or (f) of the Internal Revenue Code of 1986, as amended, and any regulations promulgated thereunder (the Code) and any other business venture (including, without limitation, joint venture or limited liability company) in which the Company has a controlling interest, as determined by the Board of Directors of the Company (the Board).

2. Eligibility

All of the Company's employees, officers, directors, consultants and advisors (including persons who have entered into an agreement with the Company under which they will be employed by the Company in the future) are eligible to be granted options or restricted stock awards (each, an Award) under the Plan. Each person who has been granted an Award under the Plan shall be deemed a Participant.

3. Administration and Delegation

(a) Administration by Board of Directors. The Plan will be administered by the Board. The Board shall have authority to grant Awards and to adopt, amend and repeal such administrative rules, guidelines and practices relating to the Plan as it shall deem advisable. The Board may correct any defect, supply any omission or reconcile any inconsistency in the Plan or any Award in the manner and to the extent it shall deem expedient to carry the Plan into effect and it shall be the sole and final judge of such expediency. All decisions by the Board shall be made in the

Board's sole discretion and shall be final and binding on all persons having or claiming any interest in the Plan or in any Award. No director or person acting pursuant to the authority delegated by the Board shall be liable for any action or determination relating to or under the Plan made in good faith.

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

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

4. Stock Available for Awards

(a) Number of Shares. Subject to adjustment under Section 10, Awards may be made under the Plan for up to the number of shares of common stock, \$0.0001 par value per share, of the Company (the "Common Stock") that is equal to the sum of:

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(1) 1,578,947 shares of Common Stock; plus

(2) such additional number of shares of Common Stock (up to 2,451,315 shares) as is equal to the sum of (x) the number of shares of Common Stock reserved for issuance under the Company's 2002 and 2003 Employee, Director and Consultant Stock Plans (the Existing Plans) that remain available for grant under the Existing Plans immediately prior to the closing of the Company's initial public offering and (y) the number of shares of Common Stock subject to awards granted under the Existing Plans which awards expire, terminate or are otherwise surrendered, canceled, forfeited or repurchased by the Company at their original issuance price pursuant to a contractual repurchase right (subject, however, in the case of Incentive Stock Options (as hereinafter defined) to any limitations of the Code); plus

(3) an annual increase to be added on the first day of each of the Company's fiscal years during the period beginning in fiscal year 2005 and ending on the second day of fiscal year 2014 equal to the lesser of (i) 2,631,578 shares of Common Stock, (ii) five percent (5%) of the outstanding shares on such date or (iii) an amount determined by the Board.

Notwithstanding the foregoing, no more than 13,157,894 shares of Common Stock (subject to adjustment under Section 8) may be issued pursuant to all Awards other than Options (each as hereinafter defined). Furthermore, notwithstanding clause (3) above, in no event shall the number of shares available under this Plan be increased as set forth in clause (3) to the extent such increase, in addition to any other increases proposed by the Board in the number of shares available for issuance under all other employee or director stock plans, would result in the total number of shares then available for issuance under all employee and director stock plans exceeding 25% of the outstanding shares of the Company on the first day of the applicable fiscal year.

If any Award expires or is terminated, surrendered or canceled without having been fully exercised or is forfeited in whole or in part (including as the result of shares of Common Stock subject to such Award being repurchased by the Company at the original issuance price pursuant to a contractual repurchase right) or results in any Common Stock not being issued, the unused Common Stock covered by such Award shall again be available for the grant of Awards under the Plan, subject, however, in the case of Incentive Stock Options (as hereinafter defined), to any limitations under the Code. Shares issued under the Plan may consist in whole or in part of authorized but unissued shares or treasury shares.

(b) **Per-Participant Limit.** Subject to adjustment under Section 10, the maximum number of shares of Common Stock with respect to which Awards may be granted to any Participant under the Plan shall be 526,315 per calendar year. The per-Participant limit described in this Section 4(b) shall be construed and applied consistently with Section 162(m) of the Code (Section 162(m)).

5. **Stock Options**

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

(b) **Incentive Stock Options.** An Option that the Board intends to be an incentive stock option as defined in Section 422 of the Code (an Incentive Stock Option) shall only be granted to employees of Alnylam Pharmaceuticals, Inc., any of Alnylam Pharmaceuticals, Inc.'s present or future parent or subsidiary corporations as defined in Sections 424(e) or (f) of the Code, and any other entities the employees of which are eligible to receive Incentive Stock Options under the Code, and shall be subject to and shall be construed consistently with the requirements of Section 422 of the

Code. The Company shall have no liability to a Participant, or any other party, if an Option (or any part thereof) that is intended to be an Incentive Stock Option is not an Incentive Stock Option.

(c) Exercise Price. The Board shall establish the exercise price at the time each Option is granted and specify it in the applicable option agreement; provided, however, that the exercise price shall be not less than 100% of the Fair Market Value (as hereinafter defined) at the time the Option is granted.

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

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

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

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

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

(3) if provided for in the option agreement or approved by the Company in its sole discretion, by delivery of shares of Common Stock owned by the Participant valued at their fair market value as determined by (or in a manner approved by) the Board (Fair Market Value), provided (i) such method of payment is then permitted under applicable law, (ii) such Common Stock, if acquired directly from the Company, was owned by the Participant at least six months prior to such delivery and (iii) such Common Stock is not subject to any repurchase, forfeiture, unfulfilled vesting or other similar requirements; or

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

6. Director Options.

(a) Initial Grant. Upon the commencement of service on the Board by any individual who is not then an employee of the Company or any subsidiary of the Company, the Company shall grant to such person a Nonstatutory Stock Option to purchase 7,105 shares of Common Stock (subject to adjustment under Section 8).

(b) Annual Grant. On the date of each annual meeting of stockholders of the Company, the Company shall grant a Nonstatutory Stock Option to purchase 5,263 shares of Common Stock (subject to adjustment under Section 8) to each member of the Board of Directors of the Company (1) who is both serving as a director of the Company immediately prior to and immediately following such annual meeting, (2) who is not then an employee of the Company or any of its subsidiaries, (3) who has served as a director of the Company for at least six months, (4) who does not beneficially own more than 1.5% of the outstanding capital stock of the Company on the date of such annual meeting and (5) who during the preceding full fiscal year has attended at least 75% of the aggregate of the (i) total number of meetings of the Board (held during the period for which he or she has been a director) and (ii) the total number of meetings held by all committees of the Board on which he or she served (during the periods that he or she served).

(c) Terms of Director Options. Options granted under this Section 6 shall (i) have an exercise price equal to the last reported sale price of the Common Stock on The Nasdaq Stock Market or the national securities exchange on which the Common Stock is then traded on the date of grant (and if the Common Stock is not then traded on The Nasdaq Stock Market or a national securities exchange, the fair market value of the Common Stock on such date as determined by the Board), (ii) vest in full on the first anniversary of the date of grant provided that the individual is

serving as a director on such date, (iii) expire on the earlier of 10 years from the date of grant or three months following termination of service as a director and (iv) contain such other terms and conditions as the Board shall determine.

(d) Board Discretion. The Board retains the specific authority to from time to time increase or decrease the number of shares subject to Options granted under this Section 6.

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7. Restricted Stock

(a) **Grants**. The Board may grant Awards entitling recipients to acquire shares of Common Stock, subject to the right of the Company to repurchase all or part of such shares at their issue price or other stated or formula price (or to require forfeiture of such shares if issued at no cost) from the recipient in the event that conditions specified by the Board in the applicable Award are not satisfied prior to the end of the applicable restriction period or periods established by the Board for such Award (each, a Restricted Stock Award).

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

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

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

(a) **Changes in Capitalization**. In the event of any stock split, reverse stock split, stock dividend, recapitalization, combination of shares, reclassification of shares, spin-off or other similar change in capitalization or event, or any distribution to holders of Common Stock other than an ordinary cash dividend, (i) the number and class of securities available under this Plan, (ii) the amount of the annual increase in the number of securities available under this Plan set forth in Section 4(a)(3)(i); (iii) the limit on the number of securities available under this Plan for Awards other than Options set forth in Section 4(a), (iv) the per-Participant limit set forth in Section 4(b), (v) the number and class of securities and exercise price per share subject to each outstanding Option and each Option issuable under Section 6, and (vi) the repurchase price per share subject to each outstanding Restricted Stock Award, shall be appropriately adjusted by the Company (or substituted Awards may be made, if applicable) to the extent determined by the Board.

(b) Reorganization Events

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

(2) **Consequences of a Reorganization Event on Awards**. In connection with a Reorganization Event, the Board shall take any one or more of the following actions as to all or any outstanding Awards on such terms as the Board determines: (i) provide that Awards shall be assumed, or substantially equivalent Awards shall be substituted, by the acquiring or succeeding corporation (or an affiliate thereof), (ii) upon written notice to a Participant, provide that the Participant's unexercised Options or other unexercised Awards shall become exercisable in full and will terminate immediately prior to the consummation of such Reorganization Event unless exercised by the Participant within a specified period following the date of such notice, (iii) in the event of a Reorganization Event under the terms of which holders of Common Stock will receive upon consummation thereof a cash payment for each share surrendered in the Reorganization Event (the Acquisition Price), make or provide for a cash payment to a Participant equal to

(A) the Acquisition Price times the number of shares of Common Stock subject to the Participant's Options or other Awards (to the extent the exercise price does not exceed the Acquisition Price) minus (B) the aggregate exercise price of all such outstanding Options or other Awards, in exchange for the termination of such Options or other Awards, (iv) provide that outstanding Awards shall become realizable or deliverable, or restrictions applicable to an Award shall lapse, in whole or in part prior to or upon such Reorganization Event, (v) provide that, in connection with a liquidation or dissolution of the Company, Awards shall convert into the right to receive liquidation proceeds (if applicable, net of the exercise price thereof) and (vi) any combination of the foregoing.

For purposes of clause (i) above, an Option shall be considered assumed if, following

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

To the extent all or any portion of an Option becomes exercisable solely as a result of clause (ii) above, the Board may provide that upon exercise of such Option the Participant shall receive shares subject to a right of repurchase by the Company or its successor at the Option exercise price; such repurchase right (x) shall lapse at the same rate as the Option would have become exercisable under its terms and (y) shall not apply to any shares subject to the Option that were exercisable under its terms without regard to clause (ii) above.

Without limiting the generality of Sections 9(f) and 10(d) below, the Board shall have the right to amend this Section 8(b)(2) to the extent it deems necessary or advisable.

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

9. General Provisions Applicable to Awards

(a) Transferability of Awards. Except as the Board may otherwise determine or provide in an Award, Awards shall not be sold, assigned, transferred, pledged or otherwise encumbered by the person to whom they are granted, either voluntarily or by operation of law, except by will or the laws of descent and distribution or, other than in the case of an Option intended to be an Incentive Stock Option, pursuant to a qualified domestic relations order, and, during the life of the Participant, shall be exercisable only by the Participant. References to a Participant, to the extent relevant in the context, shall include references to authorized transferees.

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

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

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

(e) Withholding. Each Participant shall pay to the Company, or make provision satisfactory to the Company for payment of, any taxes required by law to be withheld in connection with an Award to such Participant. Except as the Board may otherwise provide in an Award, for so long as the Common Stock is registered under the Exchange Act, Participants may satisfy such tax obligations in whole or in part by delivery of shares of Common Stock, including shares retained from the Award creating the tax obligation, valued at their Fair Market Value; provided, however, that the total tax withholding where stock is being used to satisfy such tax obligations cannot exceed the Company's minimum statutory

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withholding obligations (based on minimum statutory withholding rates for federal and state tax purposes, including payroll taxes, that are applicable to such supplemental taxable income). Shares surrendered to satisfy tax withholding requirements cannot be subject to any repurchase, forfeiture, unfulfilled vesting or other similar requirements. The Company may, to the extent permitted by law, deduct any such tax obligations from any payment of any kind otherwise due to a Participant.

(f) Amendment of Award. The Board may amend, modify or terminate any outstanding Award, including but not limited to, substituting therefor another Award of the same or a different type, changing the date of exercise or realization, and converting an Incentive Stock Option to a Nonstatutory Stock Option, provided that the Participant's consent to such action shall be required unless the Board determines that the action, taking into account any related action, would not materially and adversely affect the Participant.

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

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

(i) Deferrals. The Board may permit Participants to defer receipt of any Common Stock issuable upon exercise of an Option or upon the lapse of any restriction applicable to any Restricted Stock Award, subject to such rules and procedures as it may establish.

(j) Share Issuance. To the extent that the Plan provides for issuance of stock certificates to reflect the issuance of shares of Common Stock or Restricted Stock, the Board may provide for the issuance of such shares on a non-certificated basis, to the extent not prohibited by applicable law or the rules of any stock exchange on which the Common Stock is traded.

10. Miscellaneous

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

(b) No Rights As Stockholder. Subject to the provisions of the applicable Award, no Participant or Designated Beneficiary shall have any rights as a stockholder with respect to any shares of Common Stock to be distributed with respect to an Award until becoming the record holder of such shares. Notwithstanding the foregoing, in the event the Company effects a split of the Common Stock by means of a stock dividend and the exercise price of and the number of shares subject to such Option are adjusted as of the date of the distribution of the dividend (rather than as of the record date for such dividend), then an optionee who exercises an Option between the record date and the distribution date for such stock dividend shall be entitled to receive, on the distribution date, the stock dividend with respect to the shares of Common Stock acquired upon such Option exercise, notwithstanding the fact that such shares were not outstanding as of the close of business on the record date for such stock dividend.

(c) Effective Date and Term of Plan. The Plan shall become effective on the date on which it is adopted by the Board, but no Award may be granted unless and until the Plan has been approved by the Company's stockholders. No Awards shall be granted under the Plan after the completion of 10 years from the earlier of (i) the date on which the Plan was adopted by the Board or (ii) the date the Plan was approved by the Company's stockholders, but Awards previously granted may extend beyond that date.

(d) Amendment of Plan. The Board may amend, suspend or terminate the Plan or any portion thereof at any time; provided that, to the extent determined by the Board, no amendment requiring stockholder approval under any

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applicable legal, regulatory or listing requirement shall become effective until such stockholder approval is obtained. No Award shall be made that is conditioned upon stockholder approval of any amendment to the Plan.

(e) Provisions for Foreign Participants. The Board may, without amending the Plan, modify Awards or Options granted to Participants who are foreign nationals or employed outside the United States or establish subplans under the Plan to recognize differences in laws, rules, regulations or customs of such foreign jurisdictions with respect to tax, securities, currency, employee benefit or other matters.

(f) Governing Law. The provisions of the Plan and all Awards made hereunder shall be governed by and interpreted in accordance with the laws of the State of Delaware, without regard to any applicable conflicts of law.

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ALNYLAM PHARMACEUTICALS, INC.

Amendment No. 1 to 2004 Stock Incentive Plan

The 2004 Stock Incentive Plan (the Plan) of Alnylam Pharmaceuticals, Inc., pursuant to Section 10(d) thereof, is hereby amended as follows:

The Plan is hereby amended by deleting Section 6 in its entirety and inserting the following in lieu thereof:

6. Director Options.

(a) **Initial Grant to New Directors.** Upon the commencement of service on the Board by any individual who is not then an employee of the Company or any subsidiary of the Company, the Company shall grant to such person a Nonstatutory Stock Option to purchase 25,000 shares of Common Stock (subject to adjustment under Section 8).

(b) **Annual Grant.** On the date of each annual meeting of stockholders of the Company, beginning with the annual meeting in 2005, the Company shall grant a Nonstatutory Stock Option to purchase 10,000 shares of Common Stock (subject to adjustment under Section 8) to each member of the Board of Directors of the Company (1) who is both serving as a director of the Company immediately prior to and immediately following such annual meeting, (2) who is not then an employee of the Company or any of its subsidiaries; and (3) who has served as a director of the Company for at least six months. In addition, on the date of each annual meeting of stockholders of the Company, beginning with the annual meeting in 2005, the Company shall grant a Nonstatutory Stock Option to purchase 10,000 shares of Common Stock (subject to adjustment under Section 8) to the Chairman of the Audit Committee of the Board of Directors of the Company.

(c) **Terms of Director Options.** Options granted under this Section 6 shall (i) have an exercise price equal to the last reported sale price of the Common Stock on The Nasdaq Stock Market or the national securities exchange on which the Common Stock is then traded on the date of grant (and if the Common Stock is not then traded on The Nasdaq Stock Market or a national securities exchange, the fair market value of the Common Stock on such date as determined by the Board), (ii) expire on the earlier of 10 years from the date of grant or three months following termination of service as a director and (iii) contain such other terms and conditions as the Board shall determine. Options granted under Section 6(a) shall vest as to 8,333 shares on each of the first and second anniversaries of the date of grant and as to the remaining 8,334 shares on the third anniversary of the date of grant subject to the individual s continued service as a director. Options granted under Section 6(b) shall vest in full on the first anniversary of the date of grant subject to the individual s continued service as a director.

(d) **Board Discretion.** The Board retains the specific authority to from time to time increase or decrease the number of shares subject to Options granted under this Section 6.

Approved by the Board of Directors on April 20, 2005

Approved by the Stockholders on _____, 2005

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PROXY

**ALNYLAM PHARMACEUTICALS, INC.
ANNUAL MEETING OF STOCKHOLDERS**

To be held on June 8, 2005 at 10:00 a.m.

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

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. and Barry E. Greene (with full power of substitution), as proxies of the undersigned, to attend the annual meeting of stockholders of the Company to be held on Wednesday, June 8, 2005, at the offices of Wilmer Cutler Pickering Hale and Dorr LLP, 60 State Street, Boston, Massachusetts 02109, 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 the Company; (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 the undersigned hold(s) any of the shares of common stock in a fiduciary, custodial or joint capacity or capacities, this proxy is signed by the undersigned in every such capacity as well as individually.

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

Has your address changed? Do you have any comments?

_____	_____
_____	_____
_____	_____

CONTINUED AND TO BE SIGNED ON REVERSE SIDE

SEE REVERSE SIDE

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Your vote is important. Please vote immediately.

Submit-a-Proxy-by-Internet

**Log on to the internet and go to
<http://www.eproxyvote.com/alny>**

Submit-a-Proxy-by-Telephone

**Call toll-free
1-877-PRX-VOTE (1-877-779-8683)**

DETACH HERE IF YOU ARE RETURNING YOUR PROXY CARD BY MAIL

x Please mark votes as in this example.

The shares of common stock of Alnylam Pharmaceuticals, Inc. (the Company) represented by this proxy will be voted as directed by the undersigned for the proposals herein proposed by the Company. 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 meeting or any adjournment thereof.

1. To elect the following nominees as Class I directors of the Company:

Nominees:

- (01) John M. Maraganore, Ph.D.
(02) Paul R. Schimmel, Ph.D.
(03) Phillip A. Sharp, Ph.D.

FOR ALL WITHHOLD FROM ALL NOMINEES o
NOMINEES o

FOR ALL EXCEPT o

Instruction: For all nominees except as noted above (write nominee(s) name in the space provided above).

2. To approve the compensation to be paid to members of the Company's Board of Directors as described in the accompanying proxy statement.

FOR AGAINST ABSTAIN

3. To ratify the appointment by the Board of Directors of PricewaterhouseCoopers LLP, an independent registered public accounting firm, as the Company's independent auditors for the fiscal year ending December 31, 2005.

FOR AGAINST ABSTAIN

MARK HERE FOR ADDRESS CHANGE AND NOTE ON REVERSE SIDE o

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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.

Please be sure to sign and date this proxy below.

Signature: Date:

Signature: Date: