

Vaishnaw Akshay
Form 4
December 21, 2012

FORM 4 UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

OMB APPROVAL

OMB Number: 3235-0287
Expires: January 31, 2015
Estimated average burden hours per response... 0.5

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STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person *
Vaishnaw Akshay

2. Issuer Name and Ticker or Trading Symbol
ALNYLAM
PHARMACEUTICALS, INC.
[ALNY]

5. Relationship of Reporting Person(s) to Issuer
(Check all applicable)
 Director 10% Owner
 Officer (give title below) Other (specify below)
EVP, Chief Medical Officer

(Last) (First) (Middle)
300 THIRD STREET
(Street)

3. Date of Earliest Transaction (Month/Day/Year)
12/20/2012

CAMBRIDGE, MA 02139
(City) (State) (Zip)

4. If Amendment, Date Original Filed(Month/Day/Year)

6. Individual or Joint/Group Filing(Check Applicable Line)
 Form filed by One Reporting Person
 Form filed by More than One Reporting Person

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

| 1. Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 2A. Deemed Execution Date, if any (Month/Day/Year) | 3. Transaction Code (Instr. 8) | 4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) | 5. Amount of Securities Beneficially Owned Reported Transaction(s) (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Ownership (Instr. 4) | | |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|--|-----------------------------------|-----|-------|
| | | | | (A) or (D) | Code | V | Amount | (D) | Price |

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

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SEC 1474
(9-02)

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

| 1. Title of Derivative | 2. Conversion | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if | 4. Transaction | 5. Number of Derivative | 6. Date Exercisable and Expiration Date | 7. Title and Amount of Underlying Securities | 8. |
|------------------------|---------------|--------------------------------------|-------------------------------|----------------|-------------------------|---|--|----|
|------------------------|---------------|--------------------------------------|-------------------------------|----------------|-------------------------|---|--|----|

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| Security (Instr. 3) | or Exercise Price of Derivative Security | any (Month/Day/Year) | Code (Instr. 8) | Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5) | (Month/Day/Year) | (Instr. 3 and 4) | | | | |
|-----------------------------|--|----------------------|-----------------|---|------------------|------------------|------------------|-----------------|--------------|----------------------------|
| | | | Code | V | (A) | (D) | Date Exercisable | Expiration Date | Title | Amount or Number of Shares |
| Stock Option (right to buy) | \$ 18.66 | 12/20/2012 | A | | 50,000 | | <u>(1)</u> | 12/20/2022 | Common Stock | 50,000 |

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | |
|--|---------------|-----------|----------------------------|-------|
| | Director | 10% Owner | Officer | Other |
| Vaishnaw Akshay 300 THIRD STREET CAMBRIDGE, MA 02139 | | | EVP, Chief Medical Officer | |

Signatures

/s/ Michael P. Mason, Attorney-in-Fact For: Akshay K. Vaishnaw
 12/20/2012
 **Signature of Reporting Person Date

Explanation of Responses:

- * If the form is filed by more than one reporting person, see Instruction 4(b)(v).
- ** Intentional misstatements or omissions of facts constitute Federal Criminal Violations. See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
- (1) The stock option vests as to 25% of the shares on the 1st anniversary of the date of the stock option grant and as to an additional 6.25% of the shares each successive three month period thereafter.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.