Allen Patricia L Form 4 December 11, 2009

Check this box

FORM 4 UNITED STATES SECURITIES AND EXCHANGE COMMISSION

OMB APPROVAL

10% Owner

0.5

Washington, D.C. 20549
Washington, D.C. 20549

Washington, D.C. 20549

Expires:

OMB
Number:

January 31,
2005

if no longer subject to
Section 16.
Form 4 or

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

SECURITIES

Expires:

Expires:

Estimated average burden hours per response...

Form 5 biligations may continue. 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

See Instruction 30(h) of the Investment Company Act of 1940

1(b).

(City)

(Print or Type Responses)

1. Name and Address of Reporting Person *	2. Issuer Name and Ticker or Trading	5. Relationship of Reporting Person(s) to
Allan Datriaia I		Iccuer

Allen Patricia L Symbol Issue

ALNYLAM
PHARMACEUTICALS, INC. (Check all applicable)

[ALNY]

(Last) (First) (Middle) 3. Date of Earliest Transaction —X_Officer (give title Other (specify below) WP of Finance/Treasurer

300 THIRD STREET 12/10/2009

(Zip)

(State)

(Street) 4. If Amendment, Date Original 6. Individual or Joint/Group Filing(Check

Filed(Month/Day/Year) Applicable Line)

X Form filed by One Reporting Person ___ Form filed by More than One Reporting Person

Director

CAMBRIDGE, MA 02142

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

1.Title of 2. Transaction Date 2A. Deemed 4. Securities 5. Amount of 6. Ownership 7. Nature of Security (Month/Day/Year) Execution Date, if TransactionAcquired (A) or Securities Form: Direct Indirect Beneficially (Instr. 3) Code Disposed of (D) (D) or Beneficial (Instr. 8) (Instr. 3, 4 and 5) Indirect (I) (Month/Day/Year) Owned Ownership Following (Instr. 4) (Instr. 4)

(A) Reported Transaction(s)

Code V Amount (D) Price (Instr. 3 and 4)

Common by
Stock 803 I Managed

Account (1)

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)

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1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transactic Code (Instr. 8)	5. Number of or Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)	6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Underlying Securities (Instr. 3 and 4)	
				Code V	(A) (D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares
Stock Option (right to buy)	\$ 16.43	12/10/2009		A	25,000	(2)	12/09/2019	Common Stock	25,000

Reporting Owners

Reporting Owner Name / Address	Relationships				
reporting owner runner runners	Director	10% Owner	Officer	Other	
Allen Patricia L 300 THIRD STREET CAMBRIDGE, MA 02142			VP of Finance/Treasurer		

Signatures

/s/ Patricia L
Allen

**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 reporting person owns 803 shares of ALNY common stock under the ALNY 401(k) plan as a result of the ALNY 401(k) matching contribution program.
- (2) 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.

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