Schmidt John A Jr Form 4 October 01, 2008

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

Check this box

if no longer subject to Section 16. Form 4 or

Form 5 obligations

may continue. See Instruction 1(b).

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 *

Schmidt John A Jr

300 THIRD STREET

CAMBRIDGE, MA 02142

2. Issuer Name and Ticker or Trading

Symbol

ALNYLAM PHARMACEUTICALS, INC.

[ALNY]

3. Date of Earliest Transaction

(Last) (First) (Middle)

(Month/Day/Year) 09/29/2008

(Street)

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

5. Relationship of Reporting Person(s) to

Issuer

(Check all applicable)

OMB

Number:

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response...

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OMB APPROVAL

3235-0287

January 31,

2005

0.5

Director 10% Owner Other (specify X_ Officer (give title below)

below) SVP, Chief Scientific Officer

6. Individual or Joint/Group Filing(Check

Applicable Line)

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

1. Title of Security (Instr. 3)

(City)

2. Transaction Date 2A. Deemed (Month/Day/Year) Execution Date, if

(State)

(Month/Day/Year)

(Zip)

4. Securities TransactionAcquired (A) or Code (Instr. 8)

Code V Amount (D) Price

Disposed of (D) (Instr. 3, 4 and 5)

5. Amount of Securities Beneficially Owned Following Reported

Transaction(s)

(Instr. 3 and 4)

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

6. Ownership Form: Direct (D) or Indirect Beneficial (Instr. 4)

7. Nature of Indirect Ownership (Instr. 4)

(9-02)

(A)

or

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

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

1. Title of Derivative Conversion 3. Transaction Date 3A. Deemed

(Month/Day/Year) Execution Date, if

4 5. Number of TransactionDerivative

6. Date Exercisable and **Expiration Date**

7. Title and Amount of **Underlying Securities**

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Security (Instr. 3)	or Exercise Price of Derivative Security		any (Month/Day/Year)	Code (Instr. 8)	Securities Acquired (A) Disposed of (Instr. 3, 4, at 5)	(D)		Year)	(Instr. 3 and 4)	
				Code V	(A)	(D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares
Stock Option (right to buy)	\$ 30.25	09/29/2008		A	200,000		<u>(1)</u>	09/28/2018	Common Stock	200,000

Reporting Owners

Reporting Owner Name / Address Relationships

Director 10% Owner Officer Other

Schmidt John A Jr 300 THIRD STREET CAMBRIDGE, MA 02142

SVP, Chief Scientific Officer

Signatures

By: /s/ Patricia L. Allen, Attorney-in-Fact For: John A. Schmidt, Jr.

10/01/2008

**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.

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