

ALNYLAM PHARMACEUTICALS, INC.

Form 4

October 26, 2007

FORM 4**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

OMB APPROVAL

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(Print or Type Responses)

1. Name and Address of Reporting Person *
Greene Barry E

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
____X____ Officer (give title below) ____ Other (specify below)
COO

(Last) (First) (Middle)

300 THIRD STREET

(Street)

3. Date of Earliest Transaction
(Month/Day/Year)
10/24/2007

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

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

CAMBRIDGE, MA 02142

(City) (State) (Zip)

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 or Disposed of (D) (Instr. 3, 4 and 5)	5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount (A) or (D)	Price	
Common Stock	10/24/2007		S ⁽¹⁾		252	D \$ 30.62	41,799 D
Common Stock	10/24/2007		S		48	D \$ 30.63	41,751 D
Common Stock	10/24/2007		S		300	D \$ 30.64	41,451 D
Common Stock	10/24/2007		S		100	D \$ 30.65	41,351 D
Common Stock	10/24/2007		S		515	D \$ 30.68	40,836 D

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Common Stock	10/24/2007	S	300	D	\$ 30.69	40,536	D
Common Stock	10/24/2007	S	12	D	\$ 30.7	40,524	D
Common Stock	10/24/2007	S	200	D	\$ 30.71	40,324	D
Common Stock	10/24/2007	S	100	D	\$ 30.73	40,224	D
Common Stock	10/24/2007	S	485	D	\$ 30.74	39,739	D
Common Stock	10/24/2007	S	700	D	\$ 30.75	39,039	D
Common Stock	10/24/2007	S	460	D	\$ 30.76	38,579	D
Common Stock	10/24/2007	S	1,100	D	\$ 30.77	37,479	D
Common Stock	10/24/2007	S	138	D	\$ 30.78	37,341	D
Common Stock	10/24/2007	S	250	D	\$ 30.8	37,091	D
Common Stock	10/24/2007	S	800	D	\$ 30.81	36,291	D
Common Stock	10/24/2007	S	700	D	\$ 30.82	35,591	D
Common Stock	10/24/2007	S	200	D	\$ 30.83	35,391	D
Common Stock	10/24/2007	S	1,462	D	\$ 30.84	33,929	D
Common Stock	10/24/2007	S	1,727	D	\$ 30.85	32,202	D
Common Stock	10/24/2007	S	1,067	D	\$ 30.86	31,135	D
Common Stock	10/24/2007	S	900	D	\$ 30.87	30,235	D
Common Stock	10/24/2007	S	100	D	\$ 30.875	30,135	D
Common Stock	10/24/2007	S	1,396	D	\$ 30.88	28,739	D
Common Stock	10/24/2007	S	1,500	D	\$ 30.89	27,239	D
	10/24/2007	S	2,146	D	\$ 30.9	25,093	D

Common
Stock

Common Stock	10/24/2007	S	1,542	D	\$ 30.91	23,551	D
Common Stock	10/24/2007	S	1,000	D	\$ 30.92	22,551	D
Common Stock	10/24/2007	S	1,100	D	\$ 30.93	21,451	D
Common Stock	10/24/2007	S	1,100	D	\$ 30.94	20,351	D

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

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(9-02)

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

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. Transaction Code (Instr. 8)	5. Number of 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)	8. Price of Derivative Security (Instr. 5)	9. Number of Derivative Securities Beneficially Owned Following Report Trans (Instr.
				Code	V (A) (D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
Greene Barry E 300 THIRD STREET CAMBRIDGE, MA 02142			COO	

Signatures

By: /s/ Patricia L. Allen, Attorney-in-Fact For: Barry E.
Greene

10/26/2007

__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) All sales reported on this Form 4 were made pursuant to a Rule 10b5-1 trading plan adopted by the reporting person on September 24, 2007.

Remarks:

This Form 4 is the first of three filed by the reporting person to report transactions occurring on October 24, 2007.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *see* Instruction 6 for procedure.

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