Greene Barry E Form 4 October 13, 2011

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF

SECURITIES

OMB APPROVAL

OMB 3235-0287 Number:

January 31, Expires: 2005

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Check this box if no longer subject to Section 16. Form 4 or Form 5

obligations

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

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

1(b).

(Print or Type Responses)

1. Name and Address of Reporting Person * 5. Relationship of Reporting Person(s) to 2. Issuer Name and Ticker or Trading Greene Barry E Issuer Symbol **ALNYLAM** (Check all applicable) PHARMACEUTICALS, INC. [ALNY] Director 10% Owner X_ Officer (give title Other (specify (Last) (First) (Middle) 3. Date of Earliest Transaction below) (Month/Day/Year) President and COO C/O ALNYLAM 10/11/2011 PHARMACEUTICALS, INC, 300 THIRD STREET (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

CAMBRIDGE, MA 02142

(City) (State) (Zip) Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned 1.Title of 2. Transaction Date 2A. Deemed 3. 4. Securities Acquired 5. Amount of 7. Nature of Transaction(A) or Disposed of (D) Indirect Security (Month/Day/Year) Execution Date, if Securities Ownership (Instr. 3) Code (Instr. 3, 4 and 5) Beneficially Form: Direct Beneficial (Month/Day/Year) (Instr. 8) Owned (D) or Ownership Following (Instr. 4) Indirect (I) Reported (Instr. 4) (A) Transaction(s) or (Instr. 3 and 4) Code Amount (D) Price \$ Common 10/11/2011 $P^{(1)}$ 742 A 6.7325 742 D Stock (2) by Common Managed 1,849 I Stock Account

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

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SEC 1474 (9-02)

9. Nu Deriv Secur Bene Own Follo Repo Trans (Instr

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

1. Title of	2.	3. Transaction Date	3A. Deemed	4. 5. 6.		6. Date Exerc	cisable and 7. Title		e and	8. Price of	9
Derivative	Conversion	(Month/Day/Year)	Execution Date, if	on Date, if TransactionNumber E		Expiration Da	xpiration Date Amou		nt of	Derivative]
Security	or Exercise		any	Code	of	(Month/Day/	Year)	Under	lying	Security	5
(Instr. 3)	Price of		(Month/Day/Year)	ay/Year) (Instr. 8) Derivative			Secur	ities	(Instr. 5)]	
	Derivative				Securities Acquired		(In:		3 and 4)		(
	Security]
	·				(A) or						J
					Disposed						7
					of (D)						(
					(Instr. 3,						
					4, and 5)						
									Amount		
						Date Expiration Exercisable Date	Expiration Date	Title	or		
									Number		
								of			
				Code V	(A) (D)				Shares		

Reporting Owners

Reporting Owner Name / Address Relationships

Director 10% Owner Officer Other

Greene Barry E

C/O ALNYLAM PHARMACEUTICALS, INC
300 THIRD STREET

and COO

CAMBRIDGE, MA 02142

Signatures

/s/ Michael P. Mason, Attorney-in-Fact for Barry E.

Greene

10/13/2011

**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 purchases reported on this Form 4 were made pursuant to a Rule 10b5-1 trading plan adopted by the reporting person on August 9, 2011.
- (2) Purchase prices ranged from \$6.73 to \$6.75.
- (3) The reporting person owns 1,849 shares of ALNY common stock under the ALNY 401(k) Plan as a result of the ALNY 401(k) matching contribution program.

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