Greene Barry E Form 4 January 11, 2012

FORM 4

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF

SECURITIES

30(h) of the Investment Company Act of 1940

OMB Number:

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OMB APPROVAL

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

Check this box

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, obligations Section 17(a) of the Public Utility Holding Company Act of 1935 or Section may continue.

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 300 THIRD STREET 01/09/2012 (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 Person

(City)	(State)	(Zip) Tab	le I - Non-I	Derivative	Secui	rities Acqu	ired, Disposed of	, or Beneficial	ly 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. Securion(A) or Di (Instr. 3,	spose	d of (D) 5) Price	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)
Common Stock	01/09/2012		P(1)	567	A	\$ 8.8044 (2)	2,712	D	
Common Stock							1,849	I	by Managed Account

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

Persons who respond to the collection of SEC 1474 information contained in this form are not (9-02)

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

1. Title o	f 2.	3. Transaction Date	3A. Deemed	4.	5.	6. Date Exer	cisable and	7. Titl	e and	8. Price of	9. Nu
Derivativ	e Conversion	(Month/Day/Year)	Execution Date, if	Transacti	orNumber	Expiration D	ate	Amou	nt of	Derivative	Deriv
Security	or Exercise		any	Code	of	(Month/Day/	/Year)	Under	lying	Security	Secui
(Instr. 3)	Price of		(Month/Day/Year)	(Instr. 8)	Derivativ	e		Securi	ties	(Instr. 5)	Bene
	Derivative				Securities	S		(Instr.	3 and 4)		Own
	Security				Acquired						Follo
					(A) or						Repo
					Disposed						Trans
					of (D)						(Instr
					(Instr. 3,						
					4, and 5)						
									A		
									Amount		
						Date	Expiration		Or		
						Exercisable	Date		Number		
				C 1 W	(A) (D)				of		
				Code V	(A) (D)				Shares		

Reporting Owners

Reporting Owner Name / Address	Reporting Owner Name / Address	Relationships
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Director 10% Owner Officer Other

Greene Barry E
300 THIRD STREET
CAMBRIDGE, MA 02142

President and COO

Signatures

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

Greene

01/11/2012

**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 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 \$8.70 to \$8.86.
- (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.

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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