

Vaishnaw Akshay  
 Form 3  
 March 13, 2009

**FORM 3 UNITED STATES SECURITIES AND EXCHANGE COMMISSION**  
**Washington, D.C. 20549**

OMB APPROVAL

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**INITIAL STATEMENT OF 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 *		2. Date of Event Requiring Statement	3. Issuer Name <b>and</b> Ticker or Trading Symbol	
Â Vaishnaw Akshay		(Month/Day/Year)	ALNYLAM PHARMACEUTICALS, INC. [ALNY]	
(Last)	(First)	(Middle)	4. Relationship of Reporting Person(s) to Issuer	5. If Amendment, Date Original Filed(Month/Day/Year)
		03/04/2009		
300 THIRD STREET			(Check all applicable)	6. Individual or Joint/Group Filing(Check Applicable Line)
(Street)			<input type="checkbox"/> Director <input type="checkbox"/> 10% Owner	<input checked="" type="checkbox"/> Form filed by One Reporting Person
			<input checked="" type="checkbox"/> Officer <input type="checkbox"/> Other	<input type="checkbox"/> Form filed by More than One Reporting Person
			(give title below) (specify below)	
			SVP, Clinical Research	
CAMBRIDGE,Â MAÂ 02142				
(City)	(State)	(Zip)		

**Table I - Non-Derivative Securities Beneficially Owned**

1. Title of Security (Instr. 4)	2. Amount of Securities Beneficially Owned (Instr. 4)	3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	4. Nature of Indirect Beneficial Ownership (Instr. 5)
Common Stock	799	I	by Managed Account <sup>(1)</sup>

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly. SEC 1473 (7-02)

**Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB control number.**

**Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)**

1. Title of Derivative Security (Instr. 4)	2. Date Exercisable and Expiration Date (Month/Day/Year)	3. Title and Amount of Securities Underlying Derivative Security (Instr. 4)	4. Conversion or Exercise Price of Derivative Security	5. Ownership Form of Derivative Security: Direct (D) or Indirect	6. Nature of Indirect Beneficial Ownership (Instr. 5)
	Date Exercisable	Expiration Date	Title	Amount or Number of	

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				Shares		(I) (Instr. 5)	
Stock Option (right to buy)	Â (2)	01/02/2016	Common Stock	40,625	\$ 12.96	D	Â
Stock Option (right to buy)	Â (2)	12/08/2018	Common Stock	60,350	\$ 21.35	D	Â
Stock Option (right to buy)	Â (2)	12/13/2016	Common Stock	30,000	\$ 22.75	D	Â
Stock Option (right to buy)	Â (2)	12/11/2017	Common Stock	32,750	\$ 31.39	D	Â

## Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
Vaishnaw Akshay 300 THIRD STREET CAMBRIDGE, MA 02142	Â	Â	Â SVP, Clinical Research	Â

## Signatures

By: /s/ Patricia L. Allen, Attorney-in-Fact For: Akshay Vaishnaw

03/13/2009

\_\_Signature of Reporting Person

Date

## Explanation of Responses:

\* If the form is filed by more than one reporting person, *see* Instruction 5(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 799 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.

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