



**Item 2.02. Results of Operations and Financial Condition**

On May 5, 2010, Alnylam Pharmaceuticals, Inc. announced its financial results for the quarter ended March 31, 2010. The full text of the press release issued in connection with the announcement is furnished as Exhibit 99.1 to this Current Report on Form 8-K.

The information in this Form 8-K (including Exhibit 99.1) shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as expressly set forth by specific reference in such a filing.

**Item 9.01. Financial Statements and Exhibits**

(d) Exhibits

The following exhibit relating to Item 2.02 shall be deemed to be furnished, and not filed:

99.1 Press Release dated May 5, 2010.

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**SIGNATURE**

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

**ALNYLAM PHARMACEUTICALS, INC.**

Date: By: /s/ Patricia L. Allen  
May  
5,  
2010

Patricia L. Allen  
Vice President of Finance and Treasurer

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**EXHIBIT INDEX**

**Exhibit No.    Description**

99.1            Press Release dated May 5, 2010