



Novartis Exercises its Right to Purchase Additional Shares of Alnylam Common Stock

CAMBRIDGE, Mass.--(BUSINESS WIRE)--May. 6, 2009-- Alnylam Pharmaceuticals, Inc. (Nasdaq: ALNY), a leading RNAi therapeutics company, announced today that Novartis has elected to fully exercise its current right to purchase 65,922 unregistered shares of Alnylam's common stock in accordance with the terms of the Investor Rights Agreement between Alnylam and Novartis, dated September 6, 2005. The exercise of this right and election to purchase the maximum number of additional shares under the terms of the Agreement allows Novartis to maintain its current ownership level of Alnylam common stock of approximately 13.4%.

"Since the formation of our landmark alliance in 2005, we have been very fortunate to have Novartis as a committed partner," said John Maraganore, Ph.D., Chief Executive Officer of Alnylam. "Novartis was clearly a pioneer in recognizing the potential of RNAi therapeutics as a new class of medicines, and we are pleased with the continued progress in our alliance, which is nearing completion of its fourth year with Novartis having the right to extend for a final fifth year. Regarding their investment in Alnylam, this is now the second year that Novartis has elected to fully exercise their right to purchase additional shares under the Investor Rights Agreement, maintaining their current percent ownership of Alnylam common stock."

Pursuant to terms of the Investor Rights Agreement and in connection with Alnylam's issuance of certain shares of common stock related primarily to stock option exercises during the fiscal year ended December 31, 2008, Novartis has elected to exercise their right to purchase additional Alnylam shares. Specifically, on April 28, 2009, Novartis elected to fully exercise its right to purchase 65,922 shares of Alnylam's common stock at a purchase price of \$17.50 per share, which is equal to the average of the closing prices for Alnylam's common stock for the 20 trading-day period ending on March 30, 2009. On May 6, 2009, Novartis purchased the 65,922 unregistered shares resulting in a cash payment to Alnylam of \$1,153,635. Following this purchase, Novartis owns approximately 13.4% of Alnylam's outstanding common stock. Novartis had also exercised this option in 2008, where they purchased 213,888 shares of Alnylam's common stock at a purchase price of \$25.29 per share. The exercise of the stock purchase does not result in any changes to existing product rights or confer any additional collaboration rights to Novartis beyond the terms of the original 2005 License and Collaboration Agreement. Further, during the term described in the Investor Rights Agreement, Novartis is permitted to own no more than 19.9% of Alnylam's outstanding shares.

About Alnylam Pharmaceuticals

Alnylam is a biopharmaceutical company developing novel therapeutics based on RNA interference, or RNAi. The company is applying its therapeutic expertise in RNAi to address significant medical needs, many of which cannot effectively be addressed with small molecules or antibodies, the current major classes of drugs. Alnylam is leading the translation of RNAi as a new class of innovative medicines with peer-reviewed research efforts published in the world's top scientific journals including *Nature*, *Nature Medicine*, and *Cell*. The company is leveraging these capabilities to build a broad pipeline of RNAi therapeutics; its most advanced program is in Phase II human clinical trials for the treatment of respiratory syncytial virus (RSV) infection and is partnered with Cubist and Kyowa Hakko. In addition, the company is developing RNAi therapeutics for the treatment of a wide range of disease areas, including liver cancers, hypercholesterolemia, Huntington's disease, and TTR amyloidosis. The company's leadership position in fundamental patents, technology, and know-how relating to RNAi has enabled it to form major alliances with leading companies including Medtronic, Novartis, Biogen Idec, Roche, Takeda, Kyowa Hakko, and Cubist. To reflect its outlook for key scientific, clinical, and business initiatives, Alnylam established "RNAi 2010" in January 2008 which includes the company's plan to significantly expand the scope of delivery solutions for RNAi therapeutics, have four or more programs in clinical development, and to form four or more new major business collaborations, all by the end of 2010. Alnylam and Isis are joint owners of Regulus Therapeutics Inc., a company focused on the discovery, development, and commercialization of microRNA therapeutics. Founded in 2002, Alnylam maintains headquarters in Cambridge, Massachusetts. For more information, please visit www.alnylam.com.

Alnylam Forward-Looking Statements

Various statements in this release concerning Alnylam's future expectations, plans and prospects, constitute forward-looking statements for the purposes of the safe harbor provisions under The Private Securities Litigation Reform Act of 1995. Actual results may differ materially from those indicated by these forward-looking statements as a result of various important factors, including those risks more fully discussed in the "Risk Factors" section of its most recent annual report on Form 10-K on file with the Securities and Exchange Commission. In addition, any forward-looking statements represent Alnylam's views only as of today and should not be relied upon as representing its views as of any subsequent date. Alnylam does not assume any obligation to update any forward-looking statements.

Source: Alnylam Pharmaceuticals, Inc.

Anylam Pharmaceuticals, Inc.

Cynthia Clayton, 617-551-8207 (Investors)

or

Adriana Jenkins, 617-744-1713 (Media)

Yates Public Relations