January 5, 2012

Alnylam and Arrowhead Form Collaboration and Licensing Agreement

– Arrowhead Receives License from Alnylam to Develop RNAi Therapeutic Toward Hepatitis B Virus (HBV) – – Alnylam Gains Access to Arrowhead's Dynamic Polyconjugate (DPC) Delivery Technology for "Alnylam 5x15" Target –

Cambridge, Mass. and Pasadena, Calif., January 5, 2012 – Alnylam Pharmaceuticals, Inc. (Nasdaq: ALNY), a leading RNAi therapeutics company, and Arrowhead Research Corporation, (Nasdaq: ARWR) a nanomedicine company with development programs in RNAi and obesity, announced today that they have entered into a collaboration and joint licensing agreement.

Alnylam has granted Arrowhead a license under its intellectual property that enables the discovery, development, and commercialization of an RNAi therapeutic targeting the hepatitis B virus (HBV). Alnylam is eligible to receive from Arrowhead milestone payments and royalties on sales of product resulting from the license. In addition, Alnylam has received a license from Arrowhead to utilize their Dynamic Polyconjugate (DPC) delivery technology for an RNAi therapeutic product. Alnylam expects to deploy this technology for an undisclosed target in its "Alnylam 5x15" pipeline which is focused on genetically defined targets and diseases. Arrowhead is eligible to receive from Alnylam milestone payments and royalties on sales of product resulting from the license. No additional financial details were disclosed.

"We view Arrowhead's DPC technology as a promising emerging delivery approach, with the potential to complement our existing delivery platform which currently includes lipid nanoparticles and our siRNA conjugate platform," said Laurence Reid, Ph.D., Senior Vice President and Chief Business Officer of Alnylam. "In addition, by granting Arrowhead a license for their HBV program, we are enabling their efforts with access to Alnylam intellectual property which we believe is critical for the development and commercialization of RNAi therapeutics. We look forward to continuing to work with Arrowhead, who is already a partner and licensee of Alnylam."

"This license from Alnylam is an important step for us as we expand our pipeline to include our first DPC-enabled candidate targeting hepatitis B," said Christopher Anzalone, Ph.D., President and CEO of Arrowhead. "With over 350 million carriers world-wide, HBV represents a large underserved medical need, and one that RNAi and DPCs are well-suited to address. We are also very pleased to grant Alnylam the first commercial license to our DPC technology for one of their genetically defined disease targets. We believe DPCs represent one of the most promising delivery approaches for the systemic delivery of RNAi therapeutics, and we look forward to a close collaboration to help Alnylam bring a DPC-enabled candidate to the clinic."

About RNA Interference (RNAi)

RNAi (RNA interference) is a revolution in biology, representing a breakthrough in understanding how genes are turned on and off in cells, and a completely new approach to drug discovery and development. Its discovery has been heralded as "a major scientific breakthrough that happens once every decade or so," and represents one of the most promising and rapidly advancing frontiers in biology and drug discovery today which was awarded the 2006 Nobel Prize for Physiology or Medicine. RNAi is a natural process of gene silencing that occurs in organisms ranging from plants to mammals. By harnessing the natural biological process of RNAi occurring in our cells, the creation of a major new class of medicines, known as RNAi therapeutics, is on the horizon. Small interfering RNAs (siRNAs), the molecules that mediate RNAi and comprise Alnylam's RNAi therapeutic platform, target the cause of diseases by potently silencing specific mRNAs, thereby preventing disease-causing proteins from being made. RNAi therapeutics have the potential to treat disease and help patients in a fundamentally new way.

About DPC Technology

Dynamic Polyconjugate (DPC) technology is a systemic siRNA delivery platform that enables polymer-based formulation chemistry to efficiently target gene silencing complexes to specific cells. As the DPCs attach to and enter the target cells, they respond to the environmental cues provided by the cell to disassemble and release the active siRNA molecule. This unique chemistry mimics the natural viral targeting and disassembly process. Pre-clinical studies show that DPCs are highly efficacious for delivery to the liver.

About "Alnylam 5x15™"

The "Alnylam 5x15" strategy, launched in January 2011, establishes a path for development and commercialization of novel RNAi therapeutics to address genetically defined diseases with high unmet medical need. Products arising from this initiative share several key characteristics including: a genetically defined target and disease; the potential to have a major impact in a high unmet need population; the ability to leverage the existing Alnylam RNAi delivery platform; the opportunity to monitor an early biomarker in Phase I clinical trials for human proof of concept; and the existence of clinically relevant endpoints for the filing of a new drug application (NDA) with a focused patient database and possible accelerated paths for commercialization. This strategy leverages Alnylam's clinical progress on siRNA delivery, including definitive human proof-of-concept data for systemic delivery. By the end of 2015, the company expects to have five such RNAi therapeutic programs in advanced clinical development. These include ALN-TTR for the treatment of transthyretin-mediated amyloidosis (ATTR), ALN-PCS for the treatment of severe hypercholesterolemia, ALN-HPN for the treatment of refractory anemia, ALN-APC for the treatment of hemophilia, and one additional program from the company's ongoing discovery efforts that will be designated at or around the end of 2011. Alnylam intends to focus on developing and commercializing certain products arising under the "Alnylam 5x15" strategy itself in the United States and potentially certain other countries; the company will seek development and commercial partners for other core products both in the United States and in other global territories.

About Alnylam Pharmaceuticals

Alnylam is a biopharmaceutical company developing novel therapeutics based on RNA interference, or RNAi. The company is leading the translation of RNAi as a new class of innovative medicines with a core focus on RNAi therapeutics for the treatment of genetically defined diseases, including ALN-TTR for the treatment of transthyretin-mediated amyloidosis (ATTR), ALN-PCS for the treatment of severe hypercholesterolemia, ALN-HPN for the treatment of refractory anemia, and ALN-APC for the treatment of hemophilia. As part of its "Alnylam 5x15TM" strategy, the company expects to have five RNAi therapeutic products for genetically defined diseases in advanced stages of clinical development by the end of 2015. Alnylam has additional partner-based programs in clinical or development stages, including ALN-RSV01 for the treatment of respiratory syncytial virus (RSV) infection, ALN-VSP for the treatment of liver cancers, and ALN-HTT for the treatment of Huntington's disease. The company's leadership position on RNAi therapeutics and intellectual property have enabled it to form major alliances with leading companies including Merck, Medtronic, Novartis, Biogen Idec, Roche, Takeda, Kyowa Hakko Kirin, and Cubist. In addition, Alnylam and Isis co-founded Regulus Therapeutics Inc., a company focused on discovery, development, and commercialization of microRNA therapeutics; Regulus has formed partnerships with GlaxoSmithKline and Sanofi. Alnylam has also formed Alnylam Biotherapeutics, a division of the company focused on the development of RNAi technologies for application in biologics manufacturing, including recombinant proteins and monoclonal antibodies. Alnylam's VaxiRNA™ platform applies RNAi technology to improve the manufacturing processes for vaccines; GlaxoSmithKline is a collaborator in this effort. Alnylam scientists and collaborators have published their research on RNAi therapeutics in over 100 peer-reviewed papers, including many in the world's top scientific journals such as Nature, Nature Medicine, Nature Biotechnology, and Cell. Founded in 2002, Alnylam maintains headquarters in Cambridge, Massachusetts. For more information, please visit www.alnylam.com.

About Arrowhead Research Corporation

Arrowhead Research Corporation is a clinical stage nanomedicine company developing innovative therapies at the interface of biology and nanoengineering. Arrowhead's world-class capabilities and intellectual property covering nucleic acid delivery, siRNA chemistry, and tissue targeting allow it to design and develop therapeutic agents for a wide range of diseases. The company's lead products include CALAA-01, an oncology drug candidate based on the gene silencing RNA interference (RNAi) mechanism, and Adipotide™, an anti-obesity peptide that targets and kills the blood vessels that feed white adipose tissue. Arrowhead is leveraging its proprietary Dynamic Polyconjugate™ (DPC), Liposomal Nanoparticle (LNP), and RONDEL™ delivery platforms to support its own pipeline of preclinical and clinical candidates and to secure external partnerships and collaborations with biotech and pharmaceutical companies. For more information, please visit www.arrowheadresearch.com.

Alnylam Forward-Looking Statements

Various statements in this release concerning Alnylam's future expectations, plans and prospects, including without limitation, statements regarding Alnylam's views with respect to the potential for RNAi therapeutics and DPC technology, and Alnylam's expectations regarding its "Alnylam 5x15" product strategy, 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, without limitation, Alnylam's ability to discover and develop novel drug candidates, successfully demonstrate the efficacy and safety of its drug candidates, including those utilizing DPC technology, the pre-clinical and clinical results for its product candidates, which may not support further development of product candidates, actions of regulatory agencies, which may affect the initiation, timing and progress of clinical trials, obtaining, maintaining and protecting intellectual property, obtaining regulatory approval for products, competition from others using technology similar to Alnylam's and others developing products for similar uses, as well as those risks more fully discussed in the "Risk Factors" section of its most recent quarterly report on Form 10-Q 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.

Arrowhead Forward-Looking Statements

This news release contains forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. These statements are based upon our current expectations and speak only as of the date hereof. Our actual results may differ materially and adversely from those expressed in any forward-looking statements as a result of various factors and uncertainties, including the future success of our scientific studies, our ability to successfully develop drug candidates, the timing for starting and completing clinical trials, rapid technological change in our markets, and the enforcement of our intellectual property rights. Arrowhead Research Corporation's most recent Annual Report on Form 10-K and subsequent Quarterly Reports on Form 10-Q discuss some of the important risk factors that may affect our business, results of operations and financial condition. We assume no obligation to update or revise forward-looking statements to reflect new events or circumstances.

Contacts:
Cynthia Clayton

Vice President,
Investor Relations
and Corporate Communications

617-551-8207
Amanda Sellers (Media) Spectrum
202-955-6222 x2597
Michael Levitan

The Trout Group, LLC

646-378-2920
ir@arrowres.com