Alnylam Expands Alnylam Act™ Program to Include No-Charge Third-Party Genetic Testing and Counseling for People at Risk for Acute Hepatic Porphyrias

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– Individuals with Acute Hepatic Porphyrias (AHPs), a Family of Ultra-Rare Genetic Diseases, are Often Misdiagnosed and May Experience an Average Delay in Diagnosis of 15 Years –

CAMBRIDGE, Mass.--(BUSINESS WIRE)--Jan. 4, 2018-- Alnylam Pharmaceuticals, Inc. (Nasdaq: ALNY), the leading RNAi therapeutics company, today announced it has expanded the Alnylam Act™ program to include no-charge, third-party genetic testing and counseling for individuals who may carry a gene mutation known to be associated with acute hepatic porphyrias (AHPs), a family of ultra-rare, often misdiagnosed genetic diseases. AHPs are characterized by acute, potentially life-threatening abdominal attacks and chronic debilitating multi-system symptoms that severely impact patients' quality of life.

"Alnylam created the Alnylam Act program to reduce barriers to genetic testing to help individuals and their doctors make informed decisions about their health. We are pleased to have expanded Alnylam Act to include people at risk for or impacted by AHPs, for whom misdiagnoses are common because hallmark symptoms of AHPs are similar to those of other, more common diseases, leading to an average delay in diagnosis of almost 15 years," said Pritesh Gandhi, Vice President, Medical Affairs at Alnylam. "This program also highlights our commitment to the porphyria community, for whom we are proud to make complimentary third-party services available. A similar program in hATTR amyloidosis has been available to enrolled physicians for approximately two years under the Alnylam Act umbrella. Its use by cardiologists and neurologists has helped with the diagnosis of many patients with that life-threatening disease, where diagnosis might otherwise have been delayed or made more difficult without the ease of access to third party genetic testing supported through Alnylam Act."

"Alnylam Act is an important initiative that we hope will help to improve the diagnosis of people with the acute porphyrias," said Desiree Lyon Howe, Executive Director of the American Porphyria Foundation. "For individuals who have symptoms consistent with acute hepatic porphyrias – including severe abdominal pain, nausea and weakness – the genetic testing and counseling offered through Alnylam Act may help lead to an accurate diagnosis. We are grateful for Alnylam's commitment to advancing patient care for the porphyria community."

Genetic testing available through Alnylam Act is provided by Invitae, an independent, third-party genetic testing company. The genetic testing must be ordered by a healthcare professional and is available in the United States and Canada. Genetic counseling is provided by InformedDNA, an independent, third-party genetic counseling provider and is available in the U.S. only.

"The Alnylam Act program can help patients at risk for acute hepatic porphyria gain earlier access to genetic information and will hopefully lead to earlier diagnosis and improved care," said Robert Nussbaum, M.D., Chief Medical Officer of Invitae. "Genetic testing and counseling are essential for patients who may be at risk of genetic diseases, but too often are not available early in the diagnostic process. We are proud to be Alnylam's genetic testing partner on this important program."

About Alnylam Act
The Alnylam Act program was created to reduce barriers to genetic testing and counseling to help people make more informed decisions about their health. While Alnylam provides financial support for this program, all tests and services are performed by independent third parties. At no time does Alnylam receive patient-identifiable information. Alnylam receives contact information for health care providers who sign up for this program. Genetic testing service is available in the U.S. and Canada. Genetic counseling is only available in the U.S. Alnylam Act currently offers genetic testing and counseling services for individuals at risk for hereditary ATTR (hATTR) amyloidosis and Acute Hepatic Porphyrias (AHPs).

About Givosiran
Givosiran is an investigational, subcutaneously administered RNAi therapeutic targeting aminolevulinic acid synthase 1 (ALAS1) for the treatment of acute hepatic porphyrias (AHPs). It is designed to target and silence a specific messenger RNA, blocking the production of ALAS1 protein, the liver-expressed rate-limiting enzyme in the heme biosynthesis pathway. Lowering and clamping of ALAS1 may reduce the accumulation of neurotoxic intermediates, aminolevulinic acid (ALA) and porphobilinogen (PBG), that cause the clinical manifestations of AHPs. Givosiran has been granted Breakthrough Therapy and Priority Medicines (PRIME) designations by the U.S. Food and Drug Administration (FDA) and European Medicines Agency (EMA), respectively. In addition, it has also been granted orphan drug designations in both the U.S. and the EU for the treatment of AHPs. Givosiran utilizes Alnylam's ESC-GalNAc-siRNA conjugate technology, which enables subcutaneous dosing with increased potency, durability, and a wide therapeutic index. The safety and efficacy of givosiran have not been evaluated by the FDA, the EMA or any other health authority.

About Acute Hepatic Porphyrias
Acute hepatic porphyrias (AHPs) are rare, genetic diseases characterized by acute, potentially life-threatening attacks associated with wide-spread dysfunction across the autonomic, central, and peripheral nervous systems often requiring hospitalization. Severe pain is the hallmark symptom of patients suffering from acute and chronic manifestations. AHPs are caused by one of the eight enzymes responsible for heme biosynthesis in the liver and include acute intermittent porphyria (AIP), hereditary coproporphyria (HCP), variegate porphyria (VP), and ALAD-deficiency porphyria (ADP). Patients afflicted with this set of diseases are frequently misdiagnosed, and achieving an accurate diagnosis is often delayed by over a decade in many patients. Administration of IV hemin is currently the only available treatment option and is approved for on-demand treatment of acute attacks but does not prevent attacks, control chronic manifestations, or decrease the burden of disease.

About RNAi
RNAi (RNA interference) is a natural cellular process of gene silencing that represents one of the most promising and rapidly advancing frontiers in biology and drug development today. Its discovery has been heralded as "a major scientific breakthrough that happens once every decade or so," and was recognized with the award of the 2006 Nobel Prize for Physiology or Medicine. By harnessing the natural biological process of RNAi occurring in our cells, a major new class of medicines, known as RNAi therapeutics, is on the horizon. Small interfering RNA (siRNA), the molecules that mediate

RNAi and comprise Alnylam's RNAi therapeutic platform, function upstream of today's medicines by potently silencing messenger RNA (mRNA) - the genetic precursors - that encode for disease-causing proteins, thus preventing them from being made. This is a revolutionary approach with the potential to transform the care of patients with genetic and other diseases.

About Alnylam Pharmaceuticals
Alnylam (Nasdaq: ALNY) is leading the translation of RNA interference (RNAi) into a whole new class of innovative medicines with the potential to transform the lives of people afflicted with rare genetic, cardio-metabolic, and hepatic infectious diseases. Based on Nobel Prize-winning science, RNAi therapeutics represent a powerful, clinically validated approach for the treatment of a wide range of severe and debilitating diseases. Founded in 2002, Alnylam is delivering on a bold vision to turn scientific possibility into reality, with a robust discovery platform and deep pipeline of investigational medicines, including four product candidates that are in late-stage development. Looking forward, Alnylam will continue to execute on its "Alnylam 2020" strategy of building a multi-product, commercial-stage biopharmaceutical company with a sustainable pipeline of RNAi-based medicines to address the needs of patients who have limited or inadequate treatment options. Alnylam employs more than 700 people in the U.S. and Europe and is headquartered in Cambridge, MA. For more information about our people, science and pipeline, please visit www.alnylam.com and engage with us on Twitter at @Alnylam or on LinkedIn.

Alnylam Forward Looking Statements
Various statements in this release concerning Alnylam's future expectations, plans and prospects, including without limitation, Alnylam's views with respect to the potential for givosiran for the treatment of patients with AHPs, the potential for genetic testing and counseling available through Alnylam Act to aid in accurately diagnosing AHPs, and expectations regarding its "Alnylam 2020" guidance for the advancement and commercialization of RNAi therapeutics, constitute forward-looking statements for the purposes of the safe harbor provisions under The Private Securities Litigation Reform Act of 1995. Actual results and future plans may differ materially from those indicated by these forward-looking statements as a result of various important risks, uncertainties and other factors, including, without limitation, Alnylam's ability to discover and develop novel drug candidates and delivery approaches, successfully demonstrate the efficacy and safety of its product candidates, the pre-clinical and clinical results for its product candidates, which may not be replicated or continue to occur in other subjects or in additional studies or otherwise support further development of product candidates for a specified indication or at all, actions or advice of regulatory agencies, which may affect the design, initiation, timing, continuation and/or progress of clinical trials or result in the need for additional pre-clinical and/or clinical testing, delays, interruptions or failures in the manufacture and supply of its product candidates, obtaining, maintaining and protecting intellectual property, Alnylam's ability to enforce its intellectual property rights against third parties and defend its patent portfolio against challenges from third parties, obtaining and maintaining regulatory approval, pricing and reimbursement for products, progress in establishing a commercial and ex-United States infrastructure, competition from others using technology similar to Alnylam's and others developing products for similar uses, Alnylam's ability to manage its growth and operating expenses, obtain additional funding to support its business activities, and establish and maintain strategic business alliances and new business initiatives, Alnylam's dependence on third parties for development, manufacture and distribution of products, the outcome of litigation, the risk of government investigations, and unexpected expenditures, as well as those risks more fully discussed in the "Risk Factors" filed with Alnylam's most recent Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission (SEC) and in other filings that Alnylam makes with the SEC. 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 explicitly disclaims any obligation, except to the extent required by law, to update any forward-looking statements.
Givosiran has not been approved by the U.S. Food and Drug Administration, European Medicines Agency, or any other regulatory authority and no conclusions can or should be drawn regarding the safety or effectiveness of this investigational therapeutic.

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