Alnylam Announces that the United Kingdom's MHRA Grants Early Access to Patisiran

August 3, 2018

– Positive Scientific Opinion Under Early Access to Medicines Scheme will Make Patisiran Treatment Available for UK hATTR Amyloidosis Patients Before Marketing Authorization –

– Patisiran Indicated Within EAMS for the Treatment of Adults with hATTR Amyloidosis –

CAMBRIDGE, Mass.--(BUSINESS WIRE)--Aug. 3, 2018-- Alnylam Pharmaceuticals, Inc. (Nasdaq: ALNY), the leading RNAi therapeutics company, announced today that the UK's Medicines and Healthcare Products Regulatory Agency (MHRA) has granted patisiran, an investigational RNAi therapeutic in development for the treatment of hATTR amyloidosis, a positive scientific opinion through the Early Access to Medicines Scheme (EAMS). With this decision, eligible adults in the UK with hATTR amyloidosis can gain access to patisiran before the drug is granted marketing authorization by the European Commission (EC).

The aim of EAMS is to provide early availability of innovative, new, unlicensed medicines to UK patients who have a high degree of unmet clinical need. The medicines included in the scheme are those that are intended to treat, diagnose or prevent seriously debilitating or life-threatening conditions where there are no adequate treatment options.

"The EAMS positive scientific opinion reflects Alnylam's commitment to patients with hATTR amyloidosis and their families, for whom it will be welcome news," said Brendan Martin, Country Manager, UK & Ireland at Alnylam. "New treatment options that impact the underlying cause of the disease, improve neuropathy and a patient's ability to function on a daily basis, are urgently needed and this decision will allow patients to have access to patisiran without delay."

The MHRA's decision is based on the evaluation of the effects of patisiran in hATTR amyloidosis patients with polyneuropathy and its safety profile as demonstrated in the APOLLO Phase 3 study. The results of the APOLLO study were published July 5, 2018 in *TheNew England Journal of Medicine* (NEJM). Within EAMS, patisiran will be made available for eligible hATTR amyloidosis patients presenting with symptoms of polyneuropathy and/or cardiomyopathy.

MHRA's decision follows the recent positive opinion by the CHMP for patisiran for the treatment of hATTR amyloidosis in adult patients with stage 1 or stage 2 polyneuropathy, with the EC decision expected in September. If approved by the EC, the medicine will be commercialized under the brand name ONPATTRO™. Patisiran is currently under priority review as a Breakthrough Therapy with theU.S. Food and Drug Administration (FDA), with an action date of August 11, 2018. Regulatory filings in other markets, including Japan, are planned starting in mid-2018.

About Patisiran

Patisiran is an investigational, intravenously administered RNAi therapeutic targeting transthyretin (TTR) in development for the treatment of hereditary ATTR amyloidosis. It is designed to target and silence specific messenger RNA, potentially blocking the production of TTR protein before it is made. This may help to reduce the deposition and facilitate the clearance of TTR amyloid in peripheral tissues and potentially restore function to these tissues. Patisiran has not been approved by the European Commission, the U.S. Food and Drug Administration, or any other regulatory authority and does not yet have marketing authorization.

About hATTR Amyloidosis

Hereditary TTR-mediated amyloidosis (hATTR) is an inherited, progressively debilitating, and often fatal disease caused by mutations in the TTR gene. TTR protein is primarily produced in the liver and is normally a carrier of vitamin A. Mutations in the TTR gene cause abnormal amyloid proteins to accumulate and damage body organs and tissue, such as the peripheral nerves and heart, resulting in intractable peripheral sensory neuropathy, autonomic neuropathy, and/or cardiomyopathy, as well as other disease manifestations. hATTR amyloidosis represents a major unmet medical need with significant morbidity and mortality, affecting approximately 50,000 people worldwide. The median survival is 4.7 years following diagnosis, with a reduced survival (3.4 years) for patients presenting with cardiomyopathy. Treatment options that can modify the course of the disease are limited and there remains a pressing need for novel medicines to help treat patients with hATTR amyloidosis.

About RNAi

RNAi (RNA interference) is a natural cellular process of gene silencing that represents an extremely promising and rapidly advancing frontier 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

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 over 800 people in the U.S. and Europe and is headquartered in Cambridge, MA.

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 positive scientific opinion issued by EAMS, data supporting the CHMP positive opinion, and ongoing regulatory reviews of patisiran, planned regulatory filings, 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.

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