Ionis initiates pivotal clinical study of novel antisense medicine to treat patients with Alexander disease

April 20, 2021

- Innovative therapy targeting the root cause of the disease has received orphan drug designation by the U.S. FDA and European Medicines Agency

- ION373 is one of Ionis' wholly owned rare disease medicines the company plans to commercialize

CARLSBAD, Calif., April 20, 2021 /PRNewswire/ -- Ionis Pharmaceuticals, Inc. (NASDAQ: IONS) today announced it has initiated a pivotal clinical study of ION373 in patients with Alexander disease, a rare and generally fatal neurological disorder. Alexander disease patients experience progressive deterioration, leading to severe disability and loss of independence. Childhood onset is associated with more serious disease, with patients rarely surviving beyond adolescence. Alexander disease is caused by a genetic mutation that leads to overproduction and toxic accumulation of glial fibrillary acidic protein (GFAP) in the brain. ION373 is an investigational antisense medicine designed to reduce the level of GFAP.

ION373 is one of Ionis' wholly owned medicines that the company plans to commercialize as part of its strategy to develop and commercialize rare disease medicines primarily focused on its core neurological and cardiometabolic franchises.

"Initiation of a pivotal study of ION373 marks an important step toward bringing a novel disease modifying therapy to Alexander disease patients afflicted by this devastating disorder. The ability to begin our clinical program with a pivotal study serves as a testament to how Ionis' long-standing collaboration with the patient, medical and research communities can lay the foundation for an aggressive clinical path," said C. Frank Bennett, Ph.D., Ionis' chief scientific officer and franchise leader for neurological programs. "This study is yet another example of the power of Ionis' antisense technology to target the root causes of neurological diseases, delivering potentially transformative treatments to patients, and futures to families who previously had little hope."

Alexander disease has been estimated to occur in about one in one million births. ION373 has received orphan drug designation and rare pediatric disease designation from the U.S. Food and Drug Administration (FDA). The European Medicines Agency (EMA) has also granted orphan drug status to ION373.

The Phase 2/3 study of ION373 is a multi-center, double-blind, placebo-controlled, multiple-ascending dose (MAD) study in up to 58 patients with Alexander disease. Patients will receive ION373 or placebo for a 60-week period, after which all patients in the study will receive ION373 for a 60-week open-label treatment period.

Learn more about the pivotal trial of ION373 at: https://clinicaltrials.gov/ct2/show/NCT04849741?term=ion373&cond=Alexander+Disease&draw=2&rank=1

About Ionis' Neurology Franchise

The Ionis neurology franchise addresses all major brain regions and central nervous system cell types and currently has three Phase 3 studies ongoing with 11 medicines in clinical development, three of which are wholly owned. Ionis is leading the way in treating the root causes of many neurological diseases and developing antisense medicines for common diseases like Alzheimer's and Parkinson's as well as rare diseases like amyotrophic lateral sclerosis (ALS) and Alexander disease. Ionis' marketed neurological disease medicines include SPINRAZA®, the global foundation of care for spinal muscular atrophy (SMA), commercialized by Biogen, and TEGSEDI®, the first and only self-administered, subcutaneous treatment for the polyneuropathy of hereditary ATTR amyloidosis in adults.

About Alexander disease

Alexander disease is a rare neurological condition characterized as a leukodystrophy, or a disease affecting the myelin sheath (the fatty insulation that protects a nerve fiber and supports signal conduction). It is caused by overproduction and toxic accumulation of GFAP in astrocytes. Clinically, Alexander disease presents with a range of symptoms that may include seizures, motor and cognitive development delay, encephalopathy, weakness, spasticity, pseudobulbar/bulbar symptoms and macrocephaly. Age of disease onset is variable, occurring from birth through young adulthood, with childhood onset generally more severe. There are treatments that can relieve symptoms, but there is no disease modifying therapy yet available to patients.

About Ionis Pharmaceuticals

For more than 30 years, Ionis has been the leader in RNA-targeted therapy, pioneering new markets and changing standards of care with its novel antisense technology. Ionis currently has three marketed medicines and a premier late-stage pipeline highlighted by industry-leading neurological and cardiometabolic franchises. Our scientific innovation began and continues with the knowledge that sick people depend on us, which fuels our vision of becoming one of the most successful biotechnology companies.

To learn more about Ionis visit www.ionispharma.com and follow us on twitter @ionispharma.

Ionis' Forward-looking Statement

This press release includes forward-looking statements regarding Ionis' business, Ionis' technologies, ION373 and other products in development. Any statement describing Ionis' goals, expectations, financial or other projections, intentions or beliefs is a forward-looking statement and should be considered an at-risk statement. Such statements are subject to certain risks and uncertainties, including those related to the impact COVID-19 could have on our business, and including but not limited to those related to our commercial products and the medicines in our pipeline, and particularly those inherent in the process of discovering, developing and commercializing medicines that are safe and effective for use as human therapeutics, and in the endeavor of building a business around such medicines. Ionis' forward-looking statements also involve assumptions that, if they never materialize or prove correct, could cause its results to differ materially from those expressed or implied by such forward-looking statements. Although Ionis' forward-looking statements reflect the good faith judgment of its management, these statements are based only on facts and factors currently known by Ionis. As a result, you are cautioned not to rely on these forward-looking statements. These and other risks concerning Ionis' programs are described in additional detail in Ionis' annual report on Form 10-K for the year ended December 31, 2020, which is on file with the SEC. Copies of this and other documents are available from the Company.

In this press release, unless the context requires otherwise, "Ionis," "Company," "we," "our," and "us" refers to Ionis Pharmaceuticals and its subsidiaries.

View original content to download multimedia:http://www.prnewswire.com/news-releases/ionis-initiates-pivotal-clinical-study-of-novel-antisense-medicine-to-treat-patients-with-alexander-disease-301272140.html

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