Ionis and partner announce enrollment completion of global Phase 3 GENERATION HD1 study for Huntington's disease

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CARLSBAD, Calif., April 20, 2020 /PRNewswire/ -- Ionis Pharmaceuticals, Inc. (NASDAQ: IONS), the leader in RNA-targeted therapeutics, today announced that its partner Roche, also known as Genentech in the United States, has completed enrollment for GENERATION HD1, a global Phase 3 study evaluating the efficacy and safety of tominersen (previously IONIS-HTT$_{Rx}$ or RG6042), an investigational antisense therapy for people living with Huntington's disease (HD).

"Completion of the enrollment of this Phase 3 study is an important landmark for the clinical development of tominersen and for families affected by Huntington's disease. While there is much work ahead of us, we are now closer to potentially providing a treatment for people living with this devastating disease. We are grateful to Huntington's disease patients, their families and healthcare providers for their courage and resilience, particularly in the current challenging environment," said Brett P. Monia, Ph.D., Ionis' chief executive officer. "At Ionis, knowing that sick people depend on us fuels our passion for discovering and delivering novel antisense medicines like tominersen, the first and only therapy in pivotal trials targeting the underlying cause of HD."

GENERATION HD1 is evaluating the efficacy and safety of tominersen treatment administered once every two months (eight weeks) or every four months (16 weeks) over a period of 25 months, compared to placebo. The study has completed enrollment with 791 patients across approximately 100 sites around the world.

HD is a devastating, and ultimately fatal, hereditary disease resulting in deterioration in mental abilities and physical control. Currently, there is no approved disease-modifying treatment for HD. There are approximately 3 to 10 per 100,000 people worldwide affected by HD. In the U.S. alone, there are approximately 40,000 people with symptomatic HD and more than 200,000 people at risk of having inherited the gene that causes HD.

About tominersen
Tominersen, previously IONIS-HTT$_{Rx}$ or RG6042, is an investigational antisense therapy designed to reduce the production of all forms of the huntingtin protein (HTT), including its mutated variant, mHTT. Tominersen is the first therapy in pivotal trials targeting the underlying cause of HD. In December 2017, Roche licensed the investigational molecule from Ionis.

In the Phase 1/2 study, 46 people with early stage HD were treated with tominersen or placebo for 13 weeks. The data demonstrated significant, dose-dependent reductions in mHTT in the cerebrospinal fluid (CSF) of treated participants with a favorable safety and tolerability profile.

Tominersen is being investigated in a Phase 3 study (GENERATION HD1), an open label extension study in HD patients and a Phase I pharmacokinetics and pharmacodynamics study (GEN-PEAK). These studies, in addition to the non-interventional HD Natural History Study, are important elements of the clinical program to thoroughly evaluate the potential of tominersen to be the first disease-modifying medicine for the treatment of HD. The Phase 3 GENERATION HD1 study is expected to complete in 2022. The timing for this study's completion remains unchanged.

Additional information about tominersen clinical trials may be found at https://clinicaltrials.gov/ct2/show/NCT03761849.

About Ionis Pharmaceuticals, Inc.
As the leader in RNA-targeted drug discovery and development, Ionis has created an efficient, broadly applicable, drug discovery platform called antisense technology that can treat diseases where no other therapeutic approaches have proven effective. Our drug discovery platform has served as a springboard for actionable promise and realized hope for patients with unmet needs. We created the first and only approved treatment for children and adults with spinal muscular atrophy as well as the world's first RNA-targeted therapeutic approved for the treatment of polyneuropathy in adults with hereditary transthyretin amyloidosis. Our sights are set on all the patients we have yet to reach with a pipeline of more than 40 novel medicines designed to potentially treat a broad range of disease, including neurological, cardiovascular, infectious, and pulmonary diseases.

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

Ionis' Forward-looking Statement
This press release includes forward-looking statements regarding Ionis' alliance with Roche and the development, activity, therapeutic potential, commercial potential and safety of tominersen (IONIS-HTT$_{Rx}$ or RG6042). 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, 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, 2019, 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.

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