REGENXBIO Provides Update on Progress of Clinical Programs for Rare Genetic Neurodegenerative Diseases

July 8, 2020 11:05 AM EDT

- RGX-111 and RGX-121 continue to be well-tolerated in patients with MPS I and MPS II following one-time intracisternal administration

- Company completed dosing of three patients in Cohort 2 of Phase I/II trial of RGX-121 for the treatment of MPS II; additional interim data expected in second half of 2020

- Data from a single-patient investigator-initiated IND of RGX-111 for the treatment of MPS I demonstrates encouraging biomarker activity and continued progression in neurocognitive development

ROCKVILLE, Md., July 8, 2020 /PRNewswire/ -- REGENXBIO Inc. (Nasdaq: RGNX), a leading clinical-stage biotechnology company seeking to improve lives through the curative potential of gene therapy based on its proprietary NAV® Technology Platform, today announced that it has completed dosing of three patients in Cohort 2 of the Company's Phase I/II study of RGX-121 for the treatment of Mucopolysaccharidosis Type II (MPS II) and reported encouraging data under a single-patient investigator-initiated Investigational New Drug (IND) application for RGX-111 for the treatment of Mucopolysaccharidosis Type I (MPS I) conducted at CHOC Children's.

"We are pleased to have completed the dosing of three patients with MPS II at the second dose level of our RGX-121 Phase I/II study, which included involvement from new leading centers at UCSF Benioff Children's Hospital Oakland and Hospital de Clínicas de Porto Alegre in Brazil. We expect to provide an additional interim data update from the RGX-121 program later this year," said Steve Pakola, M.D., Chief Medical Officer of REGENXBIO. "Further, we are encouraged by the initial data from the first patient dosed with RGX-111, and we look forward to advancing our RGX-111 Phase I/II study."

Enrollment in Cohort 2 of the Phase I/II study of RGX-121 is now complete, with three patients with MPS II dosed intracisternally with $6.5x10^{10}$ genome copies per gram (GC/g) of brain mass. As of June 24, 2020, RGX-121 is reported to be well-tolerated in patients across two dose levels, with no drug-related serious adverse events (SAEs). Additional data from both cohorts in this study and a program update will be available in the second half of 2020.

Under a single-patient investigator-initiated IND for RGX-111, Raymond Wang, M.D., a biochemical genetics specialist at CHOC Children's, dosed a patient with severe MPS I intracisternally with $1x10^{10}$ GC/g of brain mass at the age of 21 months. MPS I is caused by a deficiency of the enzyme α-l-iduronidase (IDUA) and subsequent accumulation of heparan sulfate (HS) within the central nervous system (CNS). High levels of HS in the CSF closely correlate with neurocognitive decline and are a key biomarker of enzyme activity. As of June 9, 2020, RGX-111 is reported to be well-tolerated in this patient, with no drug-related SAEs.

The IDUA enzyme activity in the patient's cerebrospinal fluid (CSF) was below the limit of quantification prior to the administration of RGX-111. An increase in IDUA enzyme activity was detected at Week 12, the latest timepoint available following administration of RGX-111. High levels of HS in the CSF were measured in this patient at baseline, and initial data demonstrated sustained decreases in total HS in the CSF over time, with a 50% reduction from baseline at Week 12 and a 45% reduction from baseline at Week 33, the latest timepoint available.

Neurocognitive development in untreated MPS I patients is characterized by a plateau followed by a significant decline between 1 and 3 years of age. At Week 32 post-administration of RGX-111, neurocognitive evaluations indicated that the patient, who was then 29 months of age, continued to acquire cognitive developmental skills at a normal rate.

Dr. Wang commented, "I thank the research team at CHOC Children's and the child's family for working together to make this study possible. I am extremely encouraged by the clinical and biochemical indicators eight months post-treatment in this first person with MPS I dosed with RGX-111. The promising signals of IDUA expression and reduced HS levels in CSF, and an indication of ongoing neurocognitive development, provide additional evidence of the potential of RGX-111 for individuals who have MPS I."

Recruitment, screening and additional site activations are ongoing in a Phase I/II clinical trial of RGX–111. REGENXBIO expects to provide a program update in the second half of 2020. Additional information about REGENXBIO's Phase I study of RGX-111 may be found at ClinicalTrials.gov, using Identifier NCT: NCT03580083.

About RGX-111

RGX-111 is a product candidate for the treatment of Mucopolysaccharidosis Type I (MPS I), also known as Hurler syndrome. RGX-111 is designed to use the AAV9 vector to deliver the α-l-iduronidase (IDUA) gene. Delivery of the enzyme that is deficient within cells in the central nervous system (CNS) could provide a permanent source of secreted IDUA beyond the blood-brain barrier, allowing for long-term cross-correction of cells throughout the CNS. This strategy could also provide rapid IDUA delivery to the brain, potentially preventing the progression of cognitive deficits that otherwise occurs in MPS I patients. RGX-111 has received orphan drug product, rare pediatric disease and Fast Track designations from the U.S. Food and Drug Administration.

About the Phase I/II Clinical Trial of RGX-111

RGX-111 is being evaluated in a Phase I/II, first-in-human, multi-center, open-label, dose escalation study in patients with Mucopolysaccharidosis Type I (MPS I). The Phase I/II trial is designed to evaluate the safety of RGX-111 and secondary endpoints include the effect of RGX–111 on biomarkers of α-l-iduronidase (IDUA) enzyme activity in the CSF, serum and urine, neurocognitive development and other outcome measures.

About Mucopolysaccharidosis Type I (MPS I)

MPS I is a rare autosomal recessive genetic disease caused by deficiency of IDUA, an enzyme required for the breakdown of the polysaccharides in lysosomes. These polysaccharides, called glycosaminoglycans (GAGs), accumulate in tissues of MPS I patients, resulting in characteristic storage lesions and diverse clinical signs and symptoms including in the central nervous system (CNS), which can include excessive accumulation of fluid in the brain, spinal cord compression, and cognitive impairment. MPS I is estimated to occur in 1 in 100,000 births. Current disease modifying therapies for MPS I include hematopoietic stem cell transplant (HSCT) and enzyme replacement therapy with a recombinant form of human IDUA administered intravenously. However, intravenous enzyme therapy does not treat the CNS manifestations of MPS I, and HSCT can be associated with clinically significant morbidity and mortality.

About RGX-121

RGX-121 is a product candidate for the treatment of Mucopolysaccharidosis Type II (MPS II), also known as Hunter syndrome. RGX-121 is designed to use the AAV9 vector to deliver the human iduronate-2-sulfatase (IDS) gene which encodes the iduronate-2-sulfatase (I2S) enzyme to the central nervous system (CNS). Delivery of the IDS gene within cells in the CNS could provide a permanent source of secreted I2S beyond the blood-brain barrier, allowing for long-term cross correction of cells throughout the CNS. RGX-121 has received orphan drug product, rare pediatric disease and Fast Track designations from the U.S. Food and Drug Administration.

About the Phase I/II Clinical Trial of RGX-121

RGX–121 is being evaluated in a Phase I/II, multi-center, open-label, multiple-cohort, dose–escalation study in patients with Mucopolysaccharidosis Type II (MPS II) in the United States and Brazil. The Phase I/II trial is designed to evaluate the safety of RGX-121 in up to 6 patients less than five years of age who have or are at high risk of developing neurocognitive effects. In addition, the study will evaluate the effect of RGX-121 on biomarkers of iduronate-2-sulfatase (I2S) enzyme activity as well as neurocognitive deficits and other clinical measures.

About Mucopolysaccharidosis Type II (MPS II)

MPS II is a rare, X-linked recessive disease caused by a deficiency in the lysosomal enzyme iduronate-2-sulfatase (I2S) leading to an accumulation of glycosaminoglycans, including heparan sulfate (HS) in tissues which ultimately results in cell, tissue, and organ dysfunction. In severe forms of the disease, early developmental milestones may be met, but developmental delay is readily apparent by 18 to 24 months. Specific treatment to address the neurological manifestations of MPS II and prevent or stabilize cognitive decline remains a significant unmet medical need. Key biomarkers of I2S enzymatic activity in MPS II patients include its substrate heparan sulfate (HS), which has been shown to correlate with neurocognitive manifestations of the disorder.

About REGENXBIO Inc.

REGENXBIO is a leading clinical-stage biotechnology company seeking to improve lives through the curative potential of gene therapy. REGENXBIO's NAV® Technology Platform, a proprietary adeno-associated virus (AAV) gene delivery platform, consists of exclusive rights to more than 100 novel AAV vectors, including AAV7, AAV8, AAV9 and AAVrh10. REGENXBIO and its third-party NAV Technology Platform Licensees are applying the NAV Technology Platform in the development of a broad pipeline of candidates in multiple therapeutic areas.

Forward-Looking Statements

This press release includes "forward-looking statements," within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These statements express a belief, expectation or intention and are generally accompanied by words that convey projected future events or outcomes such as "believe," "may," "will," "estimate," "continue," "anticipate," "design," "intend," "expect," "could," "plan," "potential," "predict," "seek," "should," "would" or by variations of such words or by similar expressions. The forward-looking statements include statements relating to, among other things, REGENXBIO's future operations and clinical trials. REGENXBIO has based these forward-looking statements on its current expectations and assumptions and analyses made by REGENXBIO in light of its experience and its perception of historical trends, current conditions and expected future developments, as well as other factors REGENXBIO believes are appropriate under the circumstances. However, whether actual results and developments will conform with REGENXBIO's expectations and predictions is subject to a number of risks and uncertainties, including the timing of enrollment, commencement and completion and the success of clinical trials conducted by REGENXBIO, its licensees and its partners, the timing of commencement and completion and the success of preclinical studies conducted by REGENXBIO and its development partners, the timely development and launch of new products, the ability to obtain and maintain regulatory approval of product candidates, the ability to obtain and maintain intellectual property protection for product candidates and technology, trends and challenges in the business and markets in which REGENXBIO operates, the size and growth of potential markets for product candidates and the ability to serve those markets, the rate and degree of acceptance of product candidates, the impact of the COVID-19 pandemic or similar public health crises on REGENXBIO's business, and other factors, many of which are beyond the control of REGENXBIO. Refer to the "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" sections of REGENXBIO's Annual Report on Form 10-K for the year ended December 31, 2019, and comparable "risk factors" sections of REGENXBIO's Quarterly Reports on Form 10-Q and other filings, which have been filed with the U.S. Securities and Exchange Commission (SEC) and are available on the SEC's website at www.sec.gov. All of the forward-looking statements made in this press release are expressly qualified by the cautionary statements contained or referred to herein. The actual results or developments anticipated may not be realized or, even if substantially realized, they may not have the expected consequences to or effects on REGENXBIO or its businesses or operations. Such statements are not guarantees of future performance and actual results or developments may differ materially from those projected in the forward-looking statements. Readers are cautioned not to rely too heavily on the forward-looking statements contained in this press release. These forward-looking statements speak only as of the date of this press release. REGENXBIO does not undertake any obligation, and specifically declines any obligation, to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

Contacts:
Tricia Truehart
Investor Relations and Corporate Communications
347-926-7709
ttruehart@regenxbio.com

Investors:

Heather Savelle, 212-600-1902
heather@argotpartners.com

Media:
David Rosen, 212-600-1902
david.rosen@argotpartners.com

View original content to download multimedia:http://www.prnewswire.com/news-releases/regenxbio-provides-update-on-progress-of-clinical-programs-for-rare-genetic-neurodegenerative-diseases-301089731.html

SOURCE REGENXBIO Inc.