



Axovant Presents First Evidence of Clinical Stabilization in Tay-Sachs Disease at the European Society of Gene and Cell Therapy 27th Annual Congress

October 23, 2019

- *Initial data with AXO-AAV-GM2 suggests stabilization of disease course, attainment of normal developmental milestones, and improvement in myelination on brain MRI*
- *AXO-AAV-GM2 generally safe and well-tolerated to date*
- *Additional data to be presented by Dr. Terence Flotte at 5:30 PM CET today during ESGCT*

NEW YORK and BASEL, Switzerland, Oct. 23, 2019 (GLOBE NEWSWIRE) -- Axovant Gene Therapies Ltd. (NASDAQ: AXGT), a clinical-stage company developing innovative gene therapies, today announced preliminary data from an expanded access study administering investigational AXO-AAV-GM2 gene therapy in two patients with infantile Tay-Sachs disease (TSD) at the 27th Annual Congress of the European Society of Gene and Cell Therapy. Infantile TSD, a rapidly progressive and fatal pediatric neurodegenerative genetic disorder, has a median life expectancy of approximately 3-4 years. This data indicates the potential to modify the rate of disease progression in children with infantile TSD.

"Today's exciting clinical results from the AXO-AAV-GM2 program are the first reported evidence for potential disease modification in Tay-Sachs disease, and suggest an opportunity for gene replacement therapy to improve outcomes for children with this devastating condition," said Dr. Gavin Corcoran, chief R&D officer at Axovant. "Myelination is an important component of healthy brain development in infants and is often abnormal in children with Tay-Sachs disease. We were encouraged to see MRI evidence of preserved brain architecture and improved myelination in the early symptomatic child treated at 10 months of age, coupled with stability of neuromuscular function as measured on the CHOP INTEND scale. We look forward to Dr. Terry Flotte's presentation of this data at the ESGCT conference where he will describe these two clinical cases in detail."

Key findings from this first-in-human study in patients treated with AXO-AAV-GM2, an investigational gene therapy designed to restore β -Hexosaminidase A enzyme activity in the central nervous system, include:

- AXO-AAV-GM2 was successfully administered in both patients and has been generally well-tolerated to date, with no serious adverse events or clinically-relevant laboratory abnormalities related to therapy.
- First child with advanced infantile TSD, dosed in November 2018, is clinically stable at 41 months of age (11 months after dosing). Patient had severe, advanced disease at time of dosing.
 - Route of administration included cisterna magna (CM) and lumbar region delivery via intrathecal catheter. Intrathalamic dosing was not possible due to the patient's advanced disease.
 - Observed maintenance of motor skills, as measured by the Children's Hospital of Philadelphia Infant Test of Neuromuscular Disorders (CHOP INTEND*), with baseline total score of 14 increased to a total score of 18 at month 6 following gene transfer and ranged between 14-18 from week 1 to month 6 (latest data point collected).
 - Hex A enzyme activity in cerebrospinal fluid (CSF) increased by approximately 3-fold at month 3 and month 6 relative to baseline.
- Second child with infantile-onset TSD, dosed in June 2019, is clinically stable at 11 months of age (4 months after dosing). Patient was dosed with gene therapy prior to onset of severe symptoms.
 - The route of administration was bilateral intraparenchymal thalamic and intracisternal/intrathecal.
 - Clinical disease stabilization was observed in the treated child, with attainment of normal developmental milestones and a normal neurologic exam at 10 months of age.
 - No seizure activity and no exaggerated startle responses were observed.
 - By contrast, the patient's untreated, two older siblings with TSD exhibited rapid disease progression, clinical regression and seizure onset at 10-12 months of age.
 - Brain MRI taken at 10 months of age demonstrated normal brain anatomy and increased myelination, consistent with normal brain development at this age.
 - By contrast, commonly reported MRI findings in infantile TSD at this age include demyelination and cerebral and cerebellar atrophy.
 - CHOP INTEND total score was 58 at baseline, increased to a total score of 60 at month 3 following gene transfer and ranged between 58-61 from week 2 to month 3.
 - Hex A enzyme activity in CSF increased to 1.8% of normal enzyme activity between baseline and 3 months (a sustained level \geq 0.5% of normal enzyme activity is expected to correlate with a clinically meaningful effect).

**CHOP INTEND is a 16-item scale of motor function that has been validated in infants with neuromuscular disorders. Items of motor function are graded from 0 to 4 for each item, where zero equals no response, and 4 equals a complete response. Change from baseline in total score of \geq 4 points or a total score sustained $>$ 40 points has been associated with a clinically meaningful benefit.*

Dr. Terence Flotte, Professor of Pediatrics and Dean at the School of Medicine, University of Massachusetts Medical School, said, "Bilateral intrathalamic and intrathecal delivery of rAAV gene therapy may surmount the obstacle of providing widespread distribution of therapeutic enzyme throughout the brain and CNS. This innovative delivery could overcome one of the primary challenges for developing treatments for Tay-Sachs, Sandhoff and many other severe pediatric genetic disorders, providing much needed hope for these families."

Dr. Flotte will present this data on AXO-AAV-GM2 in the First-in-Human gene therapy session on October 23, 2019 at 5:30 PM Central European Time (CET).

About AXO-AAV-GM2

AXO-AAV-GM2 is an investigational gene therapy for Tay-Sachs and Sandhoff disease, which rare and fatal pediatric neurodegenerative genetic disorders within the GM2 gangliosidosis family, caused by defects in the *HEXA* (leading to Tay-Sachs disease) or *HEXB* (leading to Sandhoff disease) genes that encode the two subunits of the β -hexosaminidase A (HexA) enzyme. Both forms of GM2 gangliosidosis are caused by overwhelming storage of GM2 ganglioside within neurons throughout the central nervous system), which is normally degraded in the lysosome by the isozyme HexA. These genetic defects lead to progressive neurodegeneration and shortened life expectancy. AXO-AAV-GM2 aims to restore HexA levels by introducing a functional copy of the *HEXA* and *HEXB* genes via delivery of two co-administered AAVrh8 vectors.

In 2018, Axovant licensed exclusive worldwide rights from the University of Massachusetts Medical School for the development and commercialization of gene therapy programs for GM1 gangliosidosis and GM2 gangliosidosis, including Tay-Sachs and Sandhoff diseases.

About Axovant Gene Therapies

Axovant Gene Therapies, part of the Roivant family of companies, is a clinical-stage gene therapy company focused on developing a pipeline of innovative product candidates for debilitating neurological and neuromuscular diseases. Our current pipeline of gene therapy candidates targets GM1 gangliosidosis, GM2 gangliosidosis (including Tay-Sachs disease and Sandhoff disease), and Parkinson's disease.

Axovant is focused on accelerating product candidates into and through clinical trials with a team of experts in gene therapy development and through external partnerships with leading gene therapy organizations. For more information, visit www.axovant.com.

About Roivant

Roivant aims to improve health by rapidly delivering innovative medicines and technologies to patients. Roivant does this by building Vants – nimble, entrepreneurial biotech and healthcare companies with a unique approach to sourcing talent, aligning incentives, and deploying technology to drive greater efficiency in R&D and commercialization. Roivant today is comprised of a central technology-enabled platform and 20 Vants with over 45 investigational medicines in clinical and preclinical development and multiple healthcare technologies. For more information, please visit www.roivant.com.

About the University of Massachusetts Medical School

The mission of the University of Massachusetts Medical School is to advance the health and well-being of the people of the commonwealth and the world through pioneering education, research, public service and health care delivery.

Research into potential therapies for lysosomal storage diseases such as Tay-Sachs, Sandhoff disease and GM1 gangliosidosis at UMass Medical School and Auburn University has led to significant advances in the field. Miguel Sena-Estevés, PhD, associate professor of neurology at UMass Medical School; Heather Gray-Edwards, PhD, DVM, formerly of Auburn and currently assistant professor of radiology at UMass Medical School; and Douglas Martin, PhD, professor of anatomy, physiology and pharmacology in the College of Veterinary Medicine and the Scott-Ritchey Research Center at Auburn University, have worked collaboratively for more than a decade on animal models and therapeutic approaches for these and similar disorders. For more information, visit www.umassmed.edu.

Forward Looking Statements and Information

This press release contains forward-looking statements for the purposes of the safe harbor provisions under The Private Securities Litigation Reform Act of 1995 and other federal securities laws. The use of words such as "may," "might," "will," "would," "should," "expect," "believe," "estimate," and other similar expressions are intended to identify forward-looking statements. For example, all statements Axovant makes regarding the initiation, timing, progress, and reporting of results of its preclinical programs, clinical trials, and research and development programs; cash to be used in operating activities; its ability to advance its gene therapy product candidates into and successfully initiate, enroll, and complete clinical trials; the potential clinical utility of its product candidates; its ability to continue to develop its gene therapy platforms; its ability to develop and manufacture its products and successfully transition manufacturing processes; its ability to perform under existing collaborations with, among others, Oxford Biomedica, and the University of Massachusetts Medical School, and to add new programs to its pipeline; its ability to enter into new partnerships or collaborations; its ability to retain and successfully integrate its leadership and personnel; and the timing or likelihood of its regulatory filings and approvals are forward-looking. All forward-looking statements are based on estimates and assumptions by Axovant's management that, although Axovant believes to be reasonable, are inherently uncertain. All forward-looking statements are subject to risks and uncertainties that may cause actual results to differ materially from those that Axovant expected. Such risks and uncertainties include, among others, the initiation and conduct of preclinical studies and clinical trials; the availability of data from clinical trials; the expectations for regulatory submissions and approvals; the continued development of its small molecule and gene therapy product candidates and platforms; Axovant's scientific approach and general development progress; and the availability or commercial potential of Axovant's product candidates. These statements are also subject to a number of material risks and uncertainties that are described in Axovant's most recent Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on August 9, 2019, as updated by its subsequent filings with the Securities and Exchange Commission. Any forward-looking statement speaks only as of the date on which it was made. Axovant undertakes no obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

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