AveXis Announces Plan to Initiate Phase 1 Trial in SMA Type 2 Utilizing Intrathecal Delivery of AVXS-101

December 13, 2017

– The FDA notified AveXis it may initiate the Phase 1 trial in SMA Type 2 based on a review of data provided by the company; trial to commence immediately –

– The trial will evaluate safety, dosing and proof of concept for efficacy –

– The trial will use product produced from the new GMP process at the AveXis facility –

– Conference call and webcast today at 4:30 p.m. EST –

CHICAGO, Dec. 13, 2017 (GLOBE NEWSWIRE) -- AveXis, Inc. (NASDAQ:AVXS), a clinical-stage gene therapy company developing treatments for patients suffering from rare and life-threatening neurological genetic diseases, today announced the U.S. Food and Drug Administration (FDA) has notified the company that, based on review of data submitted, the company may initiate its planned Phase 1 clinical trial of AVXS-101 for patients with spinal muscular atrophy (SMA) Type 2 via the intrathecal (IT) route of administration, using material produced by the company’s Good Manufacturing Practice (GMP) commercial manufacturing process at the AveXis manufacturing facility. The company plans to initiate this trial immediately.

“We are quite pleased to initiate our first trial of AVXS-101 in patients with SMA Type 2,” said Sean Nolan, President and Chief Executive Officer of AveXis. “Our goal has been to expand the study of gene therapy beyond Type 1 infants to address the urgent medical needs of children with SMA Type 2, and we look forward to understanding the potential clinical impact of AVXS-101 in these patients who, left untreated, will never walk on their own and most will never stand without assistance.”

U.S. Phase 1 Trial in SMA Type 2 (STRONG)
The open-label, dose-comparison, multi-center Phase 1 trial – known as STRONG – is designed to evaluate the safety, optimal dosing, and proof of concept for efficacy of AVXS-101 in two distinct age groups of patients with SMA Type 2, utilizing a one-time IT route of administration. The trial will enroll 27 infants and children with a genetic diagnosis consistent with SMA, including the bi-allelic deletion of SMN1 and three copies of SMN2 without the SMN2 genetic modifier, who are able to sit but have no historical or current ability to stand or walk.

Two dosage strengths will be evaluated and patients will be stratified into two age groups: patients less than 24 months, and patients at least 24 months but less than 60 months. There will be at least a four-week interval between the dosing of the first three patients for each dose being studied and, based on the available safety data, a decision will be made whether to proceed.

- Cohort 1 (Dose A) will receive a dose of 6.0 x 10^{13} vg of AVXS-101 and enroll three patients less than 24 months of age.
  - If safety is established according to the Data Safety Monitoring Board (DSMB), the study will proceed to Cohort 2.
- Cohort 2 (Dose B) will receive a dose of 1.2 X 10^{14} vg of AVXS-101 and enroll three patients less than 60 months of age.
  - If safety is established according to the DSMB, an additional 21 patients will be enrolled until there are a total of 12 patients less than 24 months, and 12 patients at least 24 months but less than 60 months of age, who have received Dose B.

According to the well-characterized natural history of the disease by the Pediatric Neuromuscular Clinical Research Network, 100 percent of children with SMA Type 2 will never walk without support, 95 percent of children will never stand without assistance and more than 30 percent will die by 25 years of age. Additionally, children with SMA Type 2 experienced a mean decrease of - 0.33 points on the Hammersmith Function Motor Scale Expanded over a 12-month period.

Outcome Measures for Patients Less than 24 Months of Age

- The primary outcome measure for patients less than 24 months of age at the time of dosing is the achievement of the ability to stand without support for at least three seconds.
- The secondary outcome measure is the proportion of patients who achieve the ability to walk without assistance, defined as taking at least five steps independently while displaying coordination and balance.
- Developmental abilities, including motor function, will be evaluated as exploratory objectives.

Outcome Measures for Patients Between 24 and 60 Months of Age

- The primary outcome measure for patients between 24 months and 60 months of age at the time of dosing is the achievement of change in Hammersmith Functional Motor Scale Expanded from baseline.
- The secondary outcome measure is the proportion of patients who achieve the ability to walk without assistance, defined...
as taking at least five steps independently displaying coordination and balance.

- Developmental abilities, including motor function, will be evaluated as exploratory objectives

The trial is projected to be conducted at 11 sites in the United States, including: Ann and Robert H. Lurie Children’s Hospital of Chicago, Boston Children’s Hospital, Children’s Hospital of Philadelphia, David Geffen School of Medicine at UCLA, Johns Hopkins Pediatric Neurology, Nationwide Children’s Hospital, Stanford University Medical Center, University of Central Florida College of Medicine, University of Texas Southwest Medical Center, University of Utah and Washington University School of Medicine.

For more information about these clinical trials, please visit clinicaltrials.gov.

“This Phase 1 trial in children with SMA Type 2 will allow us to evaluate safety, optimal dosing and proof-of-concept for efficacy of AVXS-101 compared to the well-characterized natural history using the one-time intrathecal route of administration,” said Dr. Sukumar Nagendran, Chief Medical Officer of AveXis. “Because AVXS-101 targets the root cause of SMA, we are optimistic that we will observe a similar preclinical to clinical translation in this Type 2 trial as was seen in the SMA Type 1 study using intravenous administration.”

**SMA Type 1 Update**

On December 5, 2017, the company had an end-of-Phase 1 meeting with FDA with respect to AVXS-101 for SMA Type 1. The company anticipates providing an update on feedback from FDA following the receipt of the final meeting minutes in early January.

**Today’s Conference Call Information**

AveXis will host a conference call and webcast at 4:30 p.m. EST today, December 13, 2017. Analysts and investors can participate in the conference call by dialing (844) 889-6863 for domestic callers and (661) 378-9762 for international callers, using the conference ID 2945908. The webcast can be accessed live on the Events and Presentations page in the Investors and Media section of the AveXis website, www.AveXis.com. The webcast will be archived on the company’s website for 90 days and will be available for telephonic replay for 14 days following the call by dialing (855) 859-2056 (Domestic) or (404) 537-3406 (International), conference ID 2945908.

**About SMA**

SMA is a severe neuromuscular disease characterized by the loss of motor neurons leading to progressive muscle weakness and paralysis. SMA is caused by a genetic defect in the **SMN1** gene that codes SMN, a protein necessary for survival of motor neurons. The incidence of SMA is approximately one in 10,000 live births and is the leading genetic cause of infant mortality.

The most severe form of SMA is Type 1, a lethal genetic disorder characterized by motor neuron loss and associated muscle deterioration, which results in mortality or the need for permanent ventilation support before the age of two for greater than 90 percent of patients. SMA Type 2 typically presents between six and 18 months of age, and those affected will never walk without support and most will never stand without support. SMA Type 2 results in mortality in more than 30 percent of patients by the age of 25.

**About AVXS-101**

AVXS-101 is a proprietary gene therapy candidate of a one-time treatment for SMA Types 1 and 2, designed to address the monogenic root cause of SMA and prevent further muscle degeneration by addressing the defective and/or loss of the primary SMN gene. AVXS-101 also targets motor neurons, providing rapid onset of effect and crossing the blood brain barrier to allow targeting of both central and systemic features.

**About AveXis, Inc.**

AveXis is a clinical-stage gene therapy company developing treatments for patients suffering from rare and life-threatening neurological genetic diseases. The company’s initial proprietary gene therapy candidate, AVXS-101, is in the pivotal phase of study for the treatment of SMA Type 1, and a Phase 1 trial for SMA Type 2. The company also intends to expand the study of gene therapy into two additional rare neurological monogenic disorders: Rett syndrome (RTT) and a genetic form of amyotrophic lateral sclerosis (ALS) caused by mutations in the superoxide dismutase 1 (SOD1) gene.

For additional information, please visit www.avexis.com.

**Forward-Looking Statements**

This press release contains “forward-looking statements,” within the meaning of the Private Securities Litigation Reform Act of 1995, regarding, among other things, AveXis’ research, development and regulatory plans for AVXS-101, including the potential of AVXS-101 to positively impact quality of life and alter the course of disease in patients with SMA Type 1 and SMA Type 2, the expected timing of the initiation of AveXis’ planned clinical trial in SMA Type 2, ability to enroll for, and the results of, AveXis’ planned clinical trials in SMA Type 1 and SMA Type 2, the overall clinical development of AVXS-101, if approved, AveXis’ research, development and regulatory plans for AVXS-101, including AveXis’ commercial manufacturing process, timing of feedback from FDA on AVXS-101, AveXis’ ability to meet future commercial demand for AVXS-101 through its manufacturing facility and expectations regarding AveXis’ research, development and regulatory plans for its programs for treatment of RTT and genetic ALS. Such forward-looking statements are based on current expectations and involve inherent risks and uncertainties, including factors that could delay, divert or change any of them, and could cause actual results to differ materially from those projected in its forward-looking statements. Meaningful factors which could cause actual results to differ include, but are not limited to, the scope, progress, expansion, and costs of developing and commercializing AveXis’ product candidates; regulatory developments in the U.S. and EU, as well as other factors discussed in the “Risk Factors” and the “Management's Discussion and Analysis of Financial Condition and Results of Operations” sections of AveXis’ Annual Report on Form 10-K for the year ended December 31, 2016, filed with the SEC on March 16, 2017, and AveXis’ Quarterly Report on Form 10-Q for the quarter ended September 30, 2017, filed with the SEC on November 9, 2017. In addition to the risks described above and in the Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and other filings with the SEC, other unknown or unpredictable factors also could affect AveXis’ results. There can be no assurance that the actual results or developments anticipated by AveXis will be realized or, even if substantially realized, that they will have the expected consequences to, or effects on, AveXis. Therefore, no assurance can be given that the outcomes stated in such forward-looking statements and estimates will be achieved.

All forward-looking statements contained in this press release are expressly qualified by the cautionary statements contained or referred to herein. AveXis cautions investors not to rely too heavily on the forward-looking statements AveXis makes or that are made on its behalf. These forward-looking statements speak only as of the date of this press release (unless another date is indicated). AveXis undertakes no obligation, and specifically declines any obligation, to publicly update or revise any such forward-looking statements, whether as a result of new information, future events or
otherwise, except as required by law.

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