

January 31, 2019

Dear XLMTM Community,

In September 2017, the Phase 1/2 ASPIRO clinical trial began to study an investigational gene therapy product in boys affected by X-Linked Myotubular Myopathy (XLMTM). Since that time, we have provided some preliminary findings from this clinical trial to the community. Today, additional information was shared in a press release. This information is not a clinical update, instead, it is an update on recent discussions with regulatory agencies in the US and Europe.

We are sharing this letter as part of our commitment to ongoing, open communication with the XLMTM patient community. Because of the considerable interest regarding the ASPIRO clinical trial, we recognize the need for clarity regarding information as it becomes publicly available. Therefore, we wanted to answer some questions you may have and provide context to the press release issued today (also found at www.audentestx.com under investors/press releases/2019).

What are the goals of the Phase 1/2 ASPIRO investigational gene therapy clinical trial?

- To learn about the safety of the investigational gene therapy product
- To learn whether the investigational gene therapy product is effective for the long-term production of myotubularin, the missing or defective protein in XLMTM
- To determine the appropriate amount, or optimal dose, of the investigational gene therapy product

When was the last clinical update on preliminary findings of the Phase 1/2 ASPIRO investigational gene therapy clinical trial?

- The latest interim safety and efficacy data was presented on October 5, 2018 at the 23rd Annual International Congress of the World Muscle Society (WMS)
- Please refer to the previous communication distributed on October 5th for information about the interim findings shared at WMS

What was the purpose of the meeting held between Audentes and the U.S. Food and Drug Administration (FDA) in December 2018?

- In August 2018, Audentes announced that the FDA granted Regenerative Medicine Advanced Therapy (RMAT) designation to the investigational gene therapy product for XLMTM. A meeting to review the plan for development of the investigational product candidate is typically conducted following receiving the designation
- The goal of the initial meeting with the FDA in December 2018 was for Audentes to present all existing data related to the ASPIRO clinical trial, as well as other information such as data from nonclinical studies and chemistry, manufacturing and controls (CMC), in order to align on next steps in developing the investigational gene therapy for patients with XLMTM

What was the outcome of the meeting held between Audentes and the U.S. FDA?

- Following the meeting, Audentes is proceeding with its plan to enroll an additional 3-5 patients in Cohort 2 of the ASPIRO clinical trial, as previously announced in a press release on January 7, 2019
- One of the main objectives of the ASPIRO clinical trial is to determine the optimal (most safe and effective) amount (or dose) of the investigational gene therapy product

- Selection of the optimal dose of the investigational gene therapy product is expected to take place in the second quarter of 2019, and will be based on a review of all data, including safety, efficacy and biopsy data available at that time
- Following the selection of the optimal dose, Audentes plans to provide an updated data package (proposal) to the FDA to continue discussions on next steps toward the path to BLA submission

It is important to understand that regulatory agencies have not approved the Audentes investigational gene therapy product as safe or effective, as it is still undergoing formal assessment in clinical trials. The investigational gene therapy product is not approved for commercial sale and is only being used in clinical trial settings.

What is the status of regulatory discussions in Europe?

- Audentes initiated discussions with the European Medicines Association (EMA) in the fourth quarter of 2018 as part of the recently granted Priority Medicines (PRIME) designation, which is similar to the RMAT designation in the United States
- Audentes anticipates receiving scientific advice from the EMA in the first quarter of 2019 to outline a path toward submission of a European Marketing Authorization Application (MAA)

What are the next steps for the Phase 1/2 ASPIRO investigational gene therapy clinical trial?

- The ASPIRO clinical trial is ongoing with sites activated in the United States, Canada and Europe
- Audentes is proceeding with its plan to expand dose Cohort 2 with an additional 3 to 5 patients in early 2019, in order to have a similar number of participants as in Cohort 1

When will the next release of findings from the Phase 1/2 ASPIRO investigational gene therapy clinical trial take place?

- The next release of findings from the ASPIRO clinical trial is anticipated to take place at the Annual Meeting of the American Society of Gene and Cell Therapy (ASGCT), which takes place April 29 - May 2, 2019
- ASGCT is a professional medical meeting attended by physicians, scientists and other healthcare professionals

Where can general information about the clinical trial design be found?

- USA: Visit ClinicalTrials.gov and enter the term "ASPIRO"
 - <https://clinicaltrials.gov/ct2/show/NCT03199469?term=aspiro&rank=1>
- Europe: Visit EU Clinical Trials Register at www.clinicaltrialsregister.eu and enter the term "ASPIRO"
 - <https://www.clinicaltrialsregister.eu/ctr-search/trial/2017-000876-27/DE>

We would like to ask for your continued partnership in understanding the need to refrain from any discussions (including social media, media, online, telephone or in-person communications) about how children in the ASPIRO clinical trial may be doing while the trial is in progress. This includes friends, families and patient groups. Please refrain from proactively asking parents of children enrolled in the ASPIRO clinical trial for information regarding their child's medical status. This is critical in helping to maintain the integrity of the data coming out of the trial.

Our hope is to demonstrate the safety and efficacy of the investigational gene therapy product to meet the needs of the regulators, such that it will benefit as many children and families affected by XLMTM as possible, in the shortest amount of time. We do this best by running a robustly controlled and scientifically disciplined clinical trial and we need your help in making sure this occurs.

We hope this information is helpful in answering some of the questions you may have.

- If you are a parent or caregiver of a child enrolled in the clinical trial, you should direct all questions to the clinical trial doctor or his/her staff
- For general inquiries, Patient Advocacy at Audentes Therapeutics can be contacted at: patientadvocacy@audentestx.com

We look forward to sharing further information in the near future.

Sincerely,

Suyash Prasad MD, Pediatrician, Senior Vice President and Chief Medical Officer

Glossary of Terms

Biologics License Application (BLA):

A request that is made to the U.S. Food and Drug Administration (FDA) for permission to introduce a biologic product into commerce. This application contains detailed information about the manufacturing process, science and medical effects of the biologic product.

Chemistry, Manufacturing and Controls (CMC):

A very important part of the Biologics License Application (BLA). This section includes details about how the product is made, its characteristics and a series of detailed tests that demonstrate its quality, in order to show a sufficiently high standard that will satisfy the U.S. Food and Drug Administration (FDA).

Clinical Study:

Research conducted in people designed to evaluate an investigational product.

Cohort:

A group of participants in a clinical trial, who are similar and observed over the same period of time. They may be similar in terms of age, dose given, clinical symptoms, or other defined characteristics. In the ASPIRO clinical trial, cohorts are similar in terms of the dose received.

Interim:

Early, preliminary and/or incomplete in this context, part-way through the trial.

Marketing Authorization Application (MAA):

An application that is submitted to the European Medicines Association (EMA) for permission to bring a medicinal product to the market. This application contains detailed information about the manufacturing process, science and medical effects of the product.

Nonclinical Trial:

Research conducted before clinical trials (testing in humans) can begin.

Phase 1/2 Clinical Trial:

A study that tests the safety, efficacy and optimal dose of a potential new treatment all at once, as opposed to separating the goals into multiple phases. Phase 1/2 clinical trials are common in rare conditions due to the small population size.

Priority Medicines (PRIME):

A program launched by the EMA designed to aid and expedite the regulatory process for investigational medicines that may offer a major therapeutic advantage over existing treatments, or benefit patients without treatment options. PRIME designation provides appointment of a rapporteur, early dialogue and scientific advice at key development milestones, and the potential to qualify products for accelerate review earlier in the application process.

Regenerative Medicine Advanced Therapy (RMAT):

A program launched by the FDA designed to expedite the development and approval of regenerative medicine products, including gene therapy products. The designation enables the ability to work more closely and frequently with the FDA to support the potential acceleration of the approval process.