Lexeo FAQs

Gene Therapy for Cardiomyopathy Associated with Friedreich's Ataxia

LX2006-01 is a clinical study aimed to obtain initial information on the safety and efficacy of LX2006 in patients who have Friedreich's Ataxia with evidence of cardiomyopathy. LX2006 is a gene therapy designed to be given as a one-time dose delivered intravenously (into the vein). This study is designed to evaluate 2 dose levels in a total of 10 patients.

Q: What is gene therapy?

Gene therapy is designed to introduce genetic material into cells to correct for an abnormal gene. If a mutation (a change) causes a gene to be missing or not working correctly, gene therapy is designed to introduce a normal copy of the gene into the body with the goal of producing enough protein to restore and/or improve function. In order to get a gene into a cell, a carrier called a "vector" is required to deliver the gene. Certain viruses are often used as vectors because they can deliver the new gene into the cell. The viruses are modified so they cannot cause disease when used in people.

Q: How is the gene therapy administered?

In this study, LX2006 uses a vector called AAVrh10, which has been modified so that it cannot cause disease in humans. LX2006 is specifically designed to deliver a normal copy of the frataxin (FXN) gene to the heart muscle cells (as well as certain other cells in the body). This gene therapy will be administered intravenously. The participant will receive a single dose of study drug through a plastic tube inserted into a vein in an arm over 60 minutes.

Q: Are there any invasive procedures or tests performed?

There will be blood tests and performed throughout the study, and cardiac biopsies will be done twice during the study.

Q: What is known about the safety? Was this new gene therapy tested in animals, how long, at similar doses?

LX2006 has been tested for safety in mice and non-human primates. The exact high dose (cohort 2) selected for clinical study was tested in mice for up to 10 months. In addition, the low (cohort 1) and high (cohort 2) doses selected for clinical trial are much lower than the dose used in non-human primates that were safe and well-tolerated for up to 3 months.

Q: How will my safety be monitored?

Safety will be monitored several ways throughout the study. All participants will remain in the hospital for 2 days after dosing to be monitored for safety. Participants will remain near the study site for 2-4 weeks for follow-up testing and monitoring. All participants will be followed up regularly for one year after dosing and then their follow-up will be continued in the Long Term phase of the study for a total of 5 years post-dose.

An independent Data Safety Monitoring Board (DSMB) will oversee the conduct of the study to provide oversight of the safety of participants.

Q: Where is the trial taking place? Who do I contact to learn more or express interest?

The trial will take place at approximately 5 centers in the United States and Canada.

Study site information can be found here: NCT05445323 (under Contacts and Locations)

Q: How many visits are involved?

During the first 2 weeks post-dose, there are frequent site visits (several times a week) while you are staying near the study site.

After that, participants will need to come to the study center at least 5 times over the first year.

During the second year of the study, visits will be every 3 months. During years 3-5 of the study, there will be visits every six months, some of which can be done by a visiting nurse.

Q: How long is the trial?

Participants will be in this study for approximately 5 years.

Q: How is travel handled? Will I be reimbursed for expenses or is there a travel agent to help book and pay for travel directly?

Participants will be reimbursed for transportation or parking payments related to visiting the study center. Any travel-related expenses (airfare, hotel, and meals) for the participant and a caregiver can be covered by a third-party travel company. Through a travel concierge service, the participants will be able to arrange any travel bookings, tickets etc without any out-of-pocket expenses or they can be reimbursed for travel expenses upon provision of any receipts.

Q: Can I participate in other research studies or trials at the same time?

To ensure that we are comprehensively assessing the safety and efficacy of this gene therapy, participants may not have participated in another investigational drug or device study within 12 weeks prior to Screening or have received previous gene therapy or cell therapy at any time prior to Screening. Additionally, participants cannot enroll/participate in any other investigational research study during their 5-year participation in this study.

Q: What is a cardiac biopsy and why is it performed?

A cardiac biopsy is a procedure used to take small sample of the heart tissue for testing.

Cardiac biopsies are important to measure FXN levels directly in the heart (which is the target organ). It is important to know this information for the safety of the patients in the study and to select the right dose.

The biopsies will be taken to measure FXN levels to ensure that they are below the safety threshold (several-fold above normal levels). Fluoroscopy and ultrasound will be used in the cardiac biopsies which will be performed before initiation of gene therapy and 12 weeks post-treatment by appropriately

trained staff at the study site. Careful safety monitoring will be performed during and after the biopsy procedure.

Q: If other treatments are approved for FA can I take them?

Treatment with omaveloxolone may not be initiated during the first 12 months of the study. However, such treatment may be initiated in the Long Term Follow-up (LTFU) as medically indicated.

Q: How will you know if the gene therapy works?

There are multiple time points throughout that study where the study team will perform tests to evaluate the potential efficacy of this gene therapy, including but not limited to, cardiac biopsy, CPET, ECHO, MRI, and questionnaires.

Q: How is this trial different from the trial at Cornell? Why two studies?

There are a few differences in this LEXEO study compared to the Cornell study:

The LEXEO study is an Industry sponsored study that is being conducted to potentially support future Regulatory filings for gene therapy approval. The LEXEO study is a multi-center study while the Cornell study is a single-center study. The LEXEO study requires an abnormal CPET test for study entry (to help assess the effect of the gene therapy on cardiac function), while the Cornell study does not have this requirement. Finally, The LEXEO study has cardiac biopsy assessments, while the Cornell study does not.

Two ongoing studies with these differences offer more opportunity for more patients to join one of the studies.

Q: Do you plan for sites or future studies outside the US?

There is currently a planned site in Canada. As the LX2006 program progresses, we envision having study sites outside of North America as part of future clinical studies.

Q: What about children with FA? Do you plan studies in those <18 years of age?

As FA-related cardiomyopathy may be present in young individuals, clinical trials of LX2006 in pediatric patients may be performed in the future, once initial safety and evidence of efficacy are established in this initial clinical trial in adult FA patients.

Q: Where can I find more information?

For more information, please refer to the LX2006-01 clinicaltrials.gov site: NCT05445323