ForeBatten Foundation Announces FDA Clearance for Zebronkysen under Individualized ASO Product Guidance

On May 24, 2024, ForeBatten Foundation received notification from the Food and Drug Administration that the clinical investigation for Zebronkysen (FBF-001) under the N of 1 guidance for individualized Antisense Oligonucleotide (ASO) drug products may proceed. This IND clearance paved the way for two patients with a unique CLN3 c.569dupG mutation to **begin treatment in June, 2024.**

This **major milestone** was made possible by ForeBatten's financial contributions funding basic scientific research on the common mutation found in ~85% of the CLN3 Batten Disease population and the unique c.569dupG mutation. "While our previous fundraising efforts have advanced us to this point and demonstrate the power of public support for research, **there is an urgent need for additional funding to continue the momentum**," said David Kahn, ForeBatten Foundation.

A collaborative team from University of Michigan, Rosalind Franklin University of Medicine and Science, and other partners have achieved a groundbreaking advancement using a synthetic nucleotide sequence akin to RNA, known as ASO. **Their research has shown partial restoration of a defective gene linked to CLN3 Batten disease** – an enigmatic and fatal pediatric neurodegenerative disorder**.** Dr. Michelle Hastings, the lead scientist on this initiative, explains that "the ASO was designed specifically for the unique c.569dupG mutation, realized through a cooperative effort of scientists, clinicians, and an experienced drug development team. **We are enthusiastic about the trail we are blazing, which unlocks new possibilities for personalized RNA-based treatments.** Specifically, this ASO was engineered to correct a particularly rare mutation tied to the disease. Considerable research is being conducted in parallel to refine an ASO approach for the common mutation, with current findings giving hope for an ASO-based therapy soon."

Guided by the ForeBatten Scientific Advisory Board, a passionate and dedicated Drug Development Team was assembled including members from Hastings Lab at University of Michigan and Rosalind Franklin University of Medicine and Science, The University of North Carolina School of Medicine Department of Neurology, Vanguard Clinical, BioDev Consulting, Keane Consulting, SciLucent, and Weimer Lab at Sanford Research. The Team diligently and methodically worked towards crafting **an N of 2 ASO clinical trial** specific to the CLN3 c.569dupG mutation of which there are **only two known patients**. **"This Team delivered IND clearance on a best-in-class timeline. Thanks to the support of our loyal donors** over the past seven years, the foundation's mission to explore treatment options is here**,**" said Carol Schwimmer, ForeBatten Foundation.

The drug manufacturing along with in vivo pilot studies have been completed with great success. "The Development Team has been excellent in adapting to the rare advantages offered by the regulatory guidance and the power of ASOs. We expect our collaborative interactions with the FDA to continue throughout the clinical trial. The guidance strikes a great balance between the urgent need for the treatment and best practice drug development. **The Team is truly mission-driven not only in developing this treatment but also in establishing a road map for future individualized medicine**," said Gavin Malenfant, ForeBatten Foundation Scientific Advisor.

Dr. Yael Shiloh-Malawsky, a pediatric neurologist caring for children with this devastating disorder, explains "my ultimate goal is to offer a cure. We live in an era of remarkable advancements in the treatment of genetic diseases, with scientific tools now available that were previously beyond our reach. Although the path ahead remains long, this **study marks an important milestone in developing treatments**, offering hope to our patients and their families. The clinical study team at UNC Pediatric Neurology and Genetics is honored to take part in this journey towards a cure."

"We believe that Zebronkysen is paving a path towards a better future for newly diagnosed children and will be part of the evolving story of personalized medicine. **We hope this effort also provides proof of concept to develop an ASO treatment for the common CLN3 mutation**," said Karen Kahn, ForeBatten Foundation.

About CLN3

CLN3 disease is an inherited disorder that primarily affects the nervous system. After 4 to 6 years of normal development, children with this condition incur vision impairment, intellectual disability, movement problems, speech difficulties, and seizures, which worsen over time resulting a shortened life expectancy.

About ForeBatten Foundation

Founded in 2017, ForeBatten Foundation has raised and invested nearly $7 million in research to understand Batten disease and the development of CLN3 therapies. Our mission is to provide funding, support, and hope for the Batten community. ForeBatten Foundation is a 501(c)(3) tax-exemption organization, contributions to which are tax deductible to the full extent of the law.

The ForeBatten Foundation seeks funding and partnership opportunities in support of the development of both Zebronkysen and a treatment for the common mutation. For further information, please contact Carol Schwimmer, ForeBatten Foundation, carol@forebatten.org