M6P Therapeutics to Present at the 17th Annual International Congress on Neuronal Ceroid Lipofuscinosis

ST. LOUIS, Mo, – October 8, 2021 – M6P Therapeutics ("M6PT" or "the Company"), a privately held life sciences company developing next-generation recombinant enzyme and gene therapies for lysosomal storage disorders (LSDs), today announced the Company's participation at the 17th International Congress on Neuronal Ceroid Lipofuscinosis (NCLs), or NCL2021, being held from October 6-10, 2021, at the Eric P. Newman Education Center (EPNEC), on the Medical School Campus of Washington University in St Louis. Linda Zhao, a member of Dr. Lin Liu's R&D team, will present the abstract titled, "TPP1 with increased mannose 6-phophate content and cell uptake for Neuronal ceroid lipofuscinosis type 2 disease" at NCL2021.

"While it is not known how many people have Batten disease worldwide, the number by some estimates is 1 in 12,500 people in certain populations. Batten also affects an estimated 2 to 4 out of every 100,000 children in the United States," noted Pawel Krysiak, president and chief executive officer of M6P Therapeutics. "However, the prevalence of this disease is insignificant in comparison to the severity of its symptoms and impact the disease has on patients and their families. As such, M6PT stands behind its mission to investigate and develop best-in-class, next-generation recombinant enzyme and gene therapies for LSDs by unlocking the potential of the Company's S1S3 bicistronic platform technology."

The abstract, along with the conclusion of the in vitro study presented at NCL2021, will highlight M6PT's data, which suggest that its S1S3 bicistronic platform increases the mannose 6-phosphate (M6P) content of tripeptidyl peptidase 1 enzyme (TPP1), a lysosomal enzyme that is deficient in patients with Batten disease. M6PT suggests that by improving the M6P phosphorylation of TPP1, its platform technology enables a more efficient delivery of the enzyme to the cell, which is potentially beneficial as a recombinant enzyme therapy and/or gene therapy for the treatment of Batten disease. The term "Batten disease" originally referred specifically to the juvenile-onset form of NCL and is increasingly used to describe all forms of NCL.

Batten disease belongs to a larger group of diseases known as lysosomal storage disorders (LSDs) for which M6PT is currently developing the Company's proprietary S1S3 bicistronic platform as a promising treatment for LSDs. Neuronal ceroid lipofuscinosis type 2 (CLN2) is a neurodegenerative disorder caused by autosomal recessive mutations in the TPP1 gene, leading to the deficiency of TPP1, a lysosomal enzyme.

This deficiency results in the accumulation of intracellular autofluorescent ceroid lipofuscin, eventually causing neuronal dysfunction. The onset of the symptoms usually starts between the ages of two and four, followed by a rapid progression period before the CLN2 disease is fatal. M6PT developed a novel bicistronic platform to co-express a modified GlcNAc-1-phosphotransferase, termed S1S3, with lysosomal enzymes. This platform generates lysosomal enzymes with enhanced phosphorylation on N-glycans by producing more M6P-modified high-mannose glycans.

The Study
Recombinant TPP1 enzymes were produced by Expi293 suspension cells using plasmids to express TPP1 alone or a bicistronic expression construct to express both TPP1 and S1S3. The recombinant proteins were then assayed from conditioned media and cell lysates. Analysis of the enzyme by Endo H and PNGase F treatment demonstrated increased levels of high mannose N-glycans present on the TPP1 co-expressed with S1S3 compared to TPP1 alone. M6P glycan plays an essential role in trafficking of lysosomal enzymes to lysosomes and can facilitate the endocytosis of extracellular proteins through their interaction with the cation-independent mannose-6-phosphate receptor (CI-MPR).

M6PT's data showed that TPP1 co-expressed with S1S3 displays increased binding to the CI-MPR compared to TPP1 expressed alone. Moreover, TPP1 enzyme generated by the S1S3 bicistronic vector showed improved cell uptake by CLN2 patient fibroblast cells via CI-MPR receptors, which was inhibited by applying M6P in the media. In conclusion, the data suggests that M6PT's S1S3 bicistronic platform increases the M6P content of TPP1 enzyme which enables a more efficient delivery of the enzyme to the cell, which would be beneficial for recombinant enzyme replacement therapy and gene therapy.

About Batten Disease
Batten disease refers to a group of conditions that affect the nervous system. Batten disease originally referred specifically to the juvenile and most common form of neuronal ceroid lipofuscinosis (NCL), now known as CLN3. However, the term Batten disease is increasingly used to describe all forms of NCL. All types of NCL also belong to a larger group of diseases known as lysosomal storage disorders. Signs and symptoms vary widely between the forms but generally include a combination of dementia, vision loss, and epilepsy. Although the NCLs were historically classified according to their age of onset and clinical symptoms, the most recent classification system is primarily based on their underlying genetic cause. Most forms are inherited in an autosomal recessive manner; however, autosomal dominant inheritance has been reported in one adult-onset form (neuronal ceroid lipofuscinosis 4B). Treatment options are limited to therapies that can help relieve some of the symptoms.

About NCL2021
The International NCL Congresses bring together research scientists, clinicians, patient support groups, affected family members, and the pharmaceutical industry. We have a commitment to promote the attendance at NCL2021 and opportunities for student, postdoctoral and early career investigators to present their research.

NCL2021's mission is to:

- To provide a forum to present the latest advances in scientific, clinical and translational research into NCLs
- To promote the highest standard of scientific and clinical presentations, while still making this science accessible to affected families and other lay persons
- To bring together NCL researchers and clinicians with the NCL patient organizations and affected families, promoting clear and effective communication between these groups

For more information please visit: https://www.ncl2021.org/about-the-conference.

About M6P Therapeutics
M6P Therapeutics is a privately held, venture-backed biotechnology company developing the next-generation of targeted recombinant enzyme and gene therapies for lysosomal storage disorders (LSDs). M6P Therapeutics' proprietary S1S3 bicistronic platform has the unique ability to enhance phosphorylation of lysosomal enzymes for both recombinant enzyme and gene therapies, leading to improved biodistribution and cellular uptake of recombinant proteins and efficient cross-correction of gene therapy product. This can potentially lead to more efficacious treatments with lower therapy burden, as well as new therapies for currently untreated diseases. M6P Therapeutics' team, proven in rare diseases drug development and commercialization, is dedicated to fulfilling the promise of recombinant enzyme and gene therapies by harnessing the power of protein phosphorylation using its S1S3 bicistronic platform. M6P Therapeutics' mission is to translate advanced science into best-in-class therapies that address unmet needs within the LSD community. For more information, please visit: www.m6ptherapeutics.com.

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