Cerliponase Alfa for CLN2 Disease

**Batten disease** is the umbrella term for a group of rare disorders that are also referred to as neuronal ceroid lipofuscinoses, or NCLs. Named after British pediatrician, Frederick Batten, who first described it in 1903.

When both parents carry one defective gene, each of their children faces a 1 in 4 chance of inheriting an NCL.

CLN2 disease is rare, occurring in less than one in 100,000 people.

Caused by a deficiency in a critical enzyme, TPP-1.

Cerliponase alfa is a specially engineered recombinant human TPP-1 enzyme designed to replace the enzyme that children with CLN2 disease are lacking.

CLN2 disease is a form of Batten disease that primarily affects the central nervous systems of young children.

CLN2 disease presents when a child is about three years old.

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Enzyme Replacement Therapy for Lysosomal Storage Diseases (LSD)

Unhealthy Cell

- The difference in appearance between a normal and LSD cell is readily visible under light microscopy, as depicted here.

Healthy Cell

- Seizures, language delay, and/or loss of acquired language are the most common first signs.

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**Potential risk:** Studies in animals have indicated that cerliponase alfa may be beneficial for the neurological symptoms of CLN2 disease. Although these data are encouraging, it is important to understand that it is an experimental therapy in an early stage of clinical development. The safety and efficacy of cerliponase alfa needs to be evaluated in patients. In animals, the most common side effects were inflammation associated with the drug delivery device and allergic reactions to cerliponase alfa.

**48 weeks**

minimum length of study duration

**8 -10**

estimated size of the specialized medical support team required

**About 24 study participants**

between the ages of 3 and 16

**4,854 miles/7,811 kilometers**

Distance between the lab where cerliponase alfa is made and the furthest clinical trial site

Subjects relocate to one of **five designated clinical sites in four countries** in order to participate.

Infusion of medicine to the fluid in the brain is an established delivery technique; however, it is a novel method of delivering an enzyme replacement therapy such as cerliponase alfa.

Prior to receiving infusions, surgery is required to implant a special delivery device in the brain through which cerlipping alfa will be administered.

**Every 2 weeks**

frequency with which study patients receive cerliponase alfa infusions

One experimental therapy: cerlipping alfa


3 From BioMarin Corporate Presentation dated 5/14/14, slide 24.