Drug Coverage Policy

Effective Date 11/1/2024
Coverage Policy Number.....IP0175
Policy Title.....Brineura

Neurology – Brineura

- Brineura® (cerliponase alfa intraventricular infusion – BioMarin)

INSTRUCTIONS FOR USE
The following Coverage Policy applies to health benefit plans administered by Cigna Companies. Certain Cigna Companies and/or lines of business only provide utilization review services to clients and do not make coverage determinations. References to standard benefit plan language and coverage determinations do not apply to those clients. Coverage Policies are intended to provide guidance in interpreting certain standard benefit plans administered by Cigna Companies. Please note, the terms of a customer's particular benefit plan document [Group Service Agreement, Evidence of Coverage, Certificate of Coverage, Summary Plan Description (SPD) or similar plan document] may differ significantly from the standard benefit plans upon which these Coverage Policies are based. For example, a customer's benefit plan document may contain a specific exclusion related to a topic addressed in a Coverage Policy. In the event of a conflict, a customer's benefit plan document always supersedes the information in the Coverage Policies. In the absence of a controlling federal or state coverage mandate, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of 1) the terms of the applicable benefit plan document in effect on the date of service; 2) any applicable laws/regulations; 3) any relevant collateral source materials including Coverage Policies and; 4) the specific facts of the particular situation. Each coverage request should be reviewed on its own merits. Medical directors are expected to exercise clinical judgment and have discretion in making individual coverage determinations. Coverage Policies relate exclusively to the administration of health benefit plans. Coverage Policies are not recommendations for treatment and should never be used as treatment guidelines. In certain markets, delegated vendor guidelines may be used to support medical necessity and other coverage determinations.

Cigna Healthcare Coverage Policy

Brineura is indicated for **neuronal ceroid lipofuscinosis type 2** (CLN2), also known as tripeptidyl peptidase 1 (TPP1) deficiency to slow the loss of ambulation in symptomatic pediatric patients.[1]

Brineura is recombinant human TPP1 produced using recombinant DNA technology.[1] The recommended dose of Brineura is 300 mg administered once every other week (QOW) via intracerebroventricular (ICV) infusion. Following Brineura administration, the patient must also receive an infusion of intraventricular electrolytes. The drug is administered into the cerebral spinal fluid via a surgically implanted reservoir and catheter. It should only be administered by or under the direction of a physician who is knowledgeable in ICV administration.

Disease Overview

CLN2 disease is an ultra-rare neurodegenerative disorder that is part of a group of neuronal ceroid lipofuscinoses (NCLs) sometimes referred to as Batten disease.[2] NCL diseases are a heterogeneous group of incurable neurodegenerative lysosomal storage diseases. They manifest as early impairment of vision, loss of cognitive and motor functions, seizures, and premature death. To date, 13 genetic variants have been discovered to cause the multiple variations of the disease (e.g., CLN1, CLN2, CLN3 etc.). Classic late infantile NCL disease is caused by a variant in the CLN2 gene, which encodes for lysosomal TPP1. Without TPP1, lysosomal storage materials accumulate, contributing to the progressive and persistent neurodegeneration.[2] In CLN2 disease, symptom onset is typically between 2 and 4 years of age, and lifespan is around 6 to 14 years. Other NCLs result in deficiencies in enzymes other than TPP1. As Brineura is human recombinant TPP1, its efficacy is specific to CLN2 disease.

Guidelines
Recently published expert recommendations state that patients with a suspected NCL disorder require NCL-specific diagnostic testing.[3-5] Patients require assessment by a metabolic specialist/geneticist, an NCL specialist, or a pediatric neurologist with experience in diagnosing NCL disorders. Expert recommendation from 2016 stated that the recommended gold standard for laboratory diagnosis from experts was the demonstration of deficient TPP1 enzyme activity (in leukocytes, fibroblasts, or dried blood spots) and the identification of pathogenic variants in both alleles of the TPP1/CLN2 gene for confirmation of CLN2 disease.[4] When it is not possible to perform both analyses, either demonstration of deficient TPP1 enzyme activity in leukocytes or fibroblasts, or detection of two pathogenic variants in the CLN is diagnostic for CLN2 disease.[4] The 2021 guidelines established that the diagnosis of CLN2 can be confirmed by low levels of TPP1 enzyme activity and should be double confirmed by detecting two disease-causing mutations in the CLN2 gene.[5]

Safety
Brineura has a Boxed Warning for hypersensitivity reactions including anaphylaxis.[1] Initiation of Brineura should occur in a health care setting with appropriate monitoring.

Medical Necessity Criteria

Cerliponase alfa (Brineura) is considered medically necessary when the following are met:

1. **Neuronal Ceroid Lipofuscinosis Type 2 (CLN2).** Approve for 1 year if the patient meets ALL of the following (A, B, and C):
   - **A)** Patient has had a genetic test which confirms the diagnosis of CLN2 disease (biallelic pathogenic or likely pathogenic variants in the *TPP1* gene); AND
   - **B)** Patient has had a test which confirms reduced activity of tripeptidyl peptidase 1 (TPP1); AND
   - **C)** Brineura is prescribed by or in consultation with a metabolic specialist, geneticist, pediatric neurologist, or a physician specializing in the treatment of neuronal ceroid lipofuscinoses (NCLs).

   Dosing. Approve the following dosing (A and B):
   - **A)** 300 mg via intracerebroventricular (ICV) infusion administered once every other week; AND
   - **B)** Each dose is followed by an infusion of intraventricular electrolytes (supplied in the Brineura package).

When coverage is available and medically necessary, the dosage, frequency, duration of therapy, and site of care should be reasonable, clinically appropriate, and supported by evidence-based

literature and adjusted based upon severity, alternative available treatments, and previous response to therapy.

Receipt of sample product does not satisfy any criteria requirements for coverage.

Conditions Not Covered

Any other use is considered experimental, investigational, or unproven, including the following (this list may not be all inclusive; criteria will be updated as new published data are available):

1. **Neuronal Ceroid Lipofuscinoses (NCLs) other than late infantile ceroid lipofuscinosis type 2 (CLN2) [e.g., CLN1, CLN3, CLN10, CLN13, and others].** Brineura has not been studied for NCLs involving variants ~~mutations~~ in genes other than CLN2.[1]

Coding / Billing Information

Note: 1) This list of codes may not be all-inclusive.
2) Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement.

Considered Medically Necessary when criteria in the applicable policy statements listed above are met:

HCPCS Codes	Description
J0567	Injection, cerliponase alfa, 1 mg

References

1. Brineura® intraventricular infusion [prescribing information]. Novato, CA: BioMarin; July 2024.
2. Mukherjee AB, Appu AP, Sadhukhan T, et al. Emerging new roles of the lysosome and neuronal ceroid lipofuscinoses. *Mol Neurodegener*. 2019;14(1):4.
3. Williams RE, Adams HR, Blohm M, et al. Management strategies for CLN2 disease. *Pediatr Neurol*. 2017;69:102-112.
4. Fietz M, AlSayed M, Burke D, et al. Diagnosis of neuronal ceroid lipofuscinosis type 2 (CLN2 disease): expert recommendations for early detection and laboratory diagnosis. *Mol Genet Metab*. 2016;119(1-2):160-167.
5. Mole S, Schulz A, Badoe, E. Guidelines on the diagnosis, clinical assessments, treatment and management for CLN2 disease patients. *Orphanet J Rare Dis*. 2021;16:185.

Revision Details

Type of Revision	Summary of Changes	Date
Annual Review	Added dosing	8/1/2024
Selected Revision	**Neuronal Ceroid Lipofuscinosis Type 2 (CLN2):** The condition name was changed to as listed; previously, the approval condition was titled Late Infantile Neuronal Ceroid Lipofuscinosis Type 2 (CLN2). The requirement that the patient is ≥ 3 years of age was removed from the criteria.	11/1/2024

	Conditions Not Covered. **Updated from** "mutation" **to** "pathogenic variant".	

The policy effective date is in force until updated or retired.