

PRODUCT DATA SHEET

N-Pentadecanoyl-psychose

Catalog number: 1335

Common Name: N-C15:0-Cerebroside

Source: semisynthetic, bovine

Solubility: chloroform/methanol (2:1)

CAS number: N/A

Molecular Formula: C₃₉H₇₅NO₈

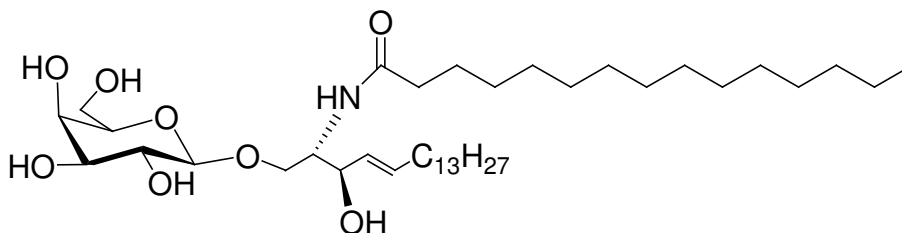
Molecular Weight: 686

Storage: -20°C

Purity: TLC >98%

TLC System: chloroform/methanol/DI water
(80:20:1 by vol.)

Appearance: solid



Application Notes:

This well-defined cerebroside is a glycosphingolipid containing a galactose (galactocerebroside) attached to a ceramide acylated with pentadecanoic acid making it ideal as a standard and for biological studies.¹ Galactocerebrosides are found primarily in neuronal tissues and are the major glycosphingolipids in the central nervous system. They are the largest single component of the myelin sheath of nerves and seem to act, along with other molecules, to form part of the structural support of the myelin sheath.² Cerebrosides are involved in a very wide range of biological activities such as cell agglutination, intracellular communication, cellular development, and antitumor/cytotoxic effects.³ Galactocerebroside can be metabolized into sulfatide which is also abundant in the nervous system and myelin sheath. Due to the relatively high melting point of cerebrosides (much greater than physiological body temperature) they have a para-crystalline structure. Krabbe's disease (globoid cell leukodystrophy) is characterized by a deficiency in the enzyme galactocerebrosidase, which is responsible for degrading galactocerebroside. This leads to an accumulation of cerebroside and psychose (which is very cytotoxic and can result in demyelination of nerves and loss of axonal conductivity). This standard from Matreya is excellent for use in the identification and isolation of cerebrosides in the study of Krabbe's disease and other studies.⁴

Selected References:

1. X. Han et al. "Alkaline methanolysis of lipid extracts extends shotgun lipidomics analyses to the low-abundance regime of cellular sphingolipids" *Analytical Biochemistry*, vol. 371 pp. 135-145, 2007
2. M. Sheldon, D. Lyudmila, "Cycloserine-induced decrease of cerebroside in myelin" *Lipids*, Vol. 33:4 pp. 441-443, 1998
3. X. Zhou, L. Tang and Y. Liu "An Isomeric Mixture of Novel Cerebrosides Isolated from *Impatiens pritzellii* Reduces Lipopolysaccharide-Induced Release of IL-18 from Human Peripheral Blood Mononuclear Cells" *Lipids*, Vol. 44:8 pp. 759-763, 2009
4. X. Han and H. Cheng "Characterization and direct quantitation of cerebroside molecular species from lipid extracts by shotgun lipidomics" *Journal of Lipid Research*, Vol. 46 pp. 163-175, 2005

This product is to be used for research only. It is not intended for drug or diagnostic use, human consumption or to be used in food or food additives. Matreya assumes no liability for any use of this product by the end user. We believe the information, offered in good faith, is accurate.