

PRODUCT DATA SHEET

Lissamine-rhodamine B-dodecanoyl-galactosylceramide

Catalog number: 2204

Common names: Sulforhodamine B-C12:0
cerebroside

Source: semisynthetic, bovine

Solubility: chloroform/methanol 8:2; DMSO;
DMF

CAS number: N/A

Molecular Formula: C₆₃H₉₉N₄O₁₄S₂

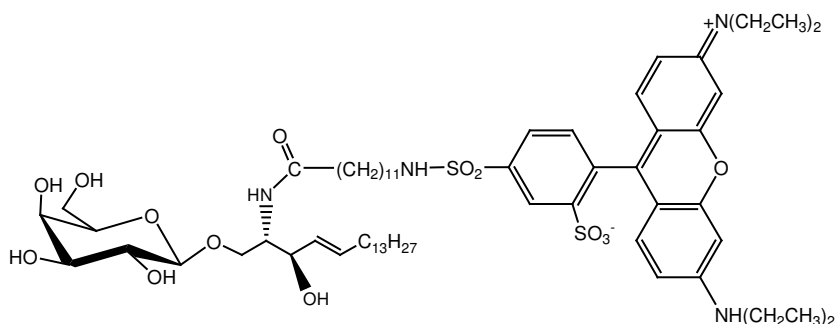
Molecular Weight: 1201

Storage: -20°C

Purity: TLC >98%; identity confirmed by MS

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

Appearance: solid



Application Notes:

Lissamine-rhodamine B-dodecanoyl-galactosylceramide is a fluorescent labeled glycosphingolipid containing a galactose attached to a ceramide and labeled with a fluorescent lissamine-rhodamine B marker. This fluorescent standard from Matreya is excellent for use in the identification and isolation of cerebrosides in the Krabbe's disease and other studies.³ Lissamine-rhodamine B dyes have an excitation/emission maxima ~560/580 nm. The fluorescent marker is attached via a 12-carbon linker reducing the interaction of the fluorophore with the sphingolipid.

Galactosylcerebrosides are found primarily in neuronal tissues and are a major component of 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.¹ Cerebrosides are involved in a very wide range of biological activities such as cell agglutination, intracellular communication, cellular development, and antitumor/cytotoxic effects.² 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 paracrystalline 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 psychosine which can result in demyelination of nerves and loss of axonal conductivity.

Selected References:

1. M. Sheldon, D. Lyudmila, "Cycloserine-induced decrease of cerebroside in myelin" *Lipids*, Vol. 33:4 pp. 441-443, 1998
2. 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
3. K. Zama et al. "Simultaneous quantification of glucosylceramide and galactosylceramide by normal-phase HPLC using *O*-phthalaldehyde derivatives prepared with sphingolipid ceramide *N*-deacylase" *Glycobiology*, vol. 19 pp. 767-775, 2009

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