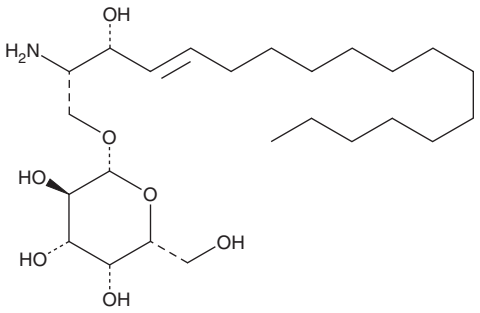
PRODUCT INFORMATION

Galactosylsphingosine (d18:1) (synthetic)

Item No. 31594

CAS Registry No.:	2238-90-6
Formal Name:	(2S,3R,4E)-2-amino-3-hydroxy-4-octadecen-1-yl β-D-galactopyranoside
Synonyms:	1-β-D-Galactosylsphingosine, Galactosylsphingosine, Psychosine
MF:	$C_{24}H_{47}NO_7$
FW:	461.6
Purity:	≥98%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Galactosylsphingosine (d18:1) (synthetic) is supplied as a solid. A stock solution may be made by dissolving the galactosylsphingosine (d18:1) (synthetic) in the solvent of choice, which should be purged with an inert gas. Galactosylsphingosine (d18:1) (synthetic) is soluble in ethanol and a 5:1:0.1 solution of chloroform:methanol:DI water. We do not recommend storing the aqueous solution for more than one day.

Description

Galactosylsphingosine is a bioactive sphingolipid.[1-3] It potentiates LPS-induced production of inflammatory cytokines, decreases the mitochondrial membrane potential, and induces cell death in mouse astrocytes, effects that can be reversed by the sphingosine-1-phosphate receptor agonist FTY720 phosphate (Item No. 10008639).[1] Galactosylsphingosine (0.1 and 1 µM) induces demyelination of mouse cerebellar slices. It inhibits PDGF-induced translocation of PKC to the cell surface and induces apoptosis in MO3.13 oligodendrocytes.[4] Galactosylsphingosine (10 and 15 µM) inhibits gene transcription mediated by peroxisome proliferator-activated receptor α (PPARα) in reporter assays using C6 glial cells.[5] Levels of galactosylsphingosine are increased in postmortem brain from patients with Krabbe disease, a lysosomal storage disorder characterized by a β-galactosylceramidase deficiency.[1-3,5]

References

1. O'Sullivan, C. and Dev, K.K. Galactosylsphingosine (psychosine)-induced demyelination is attenuated by sphingosine 1-phosphate signalling. *J. Cell. Sci.* **128(21)**, 3878-3887 (2015).
2. Hawkins-Salsbury, J., Parameswar, A.R., Jiang, X., *et al.* Psychosine, the cytotoxic sphingolipid that accumulates in globoid cell leukodystrophy, alters membrane architecture. *J. Lipid. Res.* **54(12)**, 3303-3311 (2013).
3. Hannun, Y.A. and Bell, R.M. Lysosphingolipids inhibit protein kinase C: Implications for the sphingolipidoses. *Science* **235(4789)**, 670-674 (1987).
4. Cui, W., Zhang, Z., Li, W., *et al.* The anti-cancer agent SU4312 unexpectedly protects against MPP^+-induced neurotoxicity via selective and direct inhibition of neuronal NOS. *Br. J. Pharmacol.* **168(5)**, 1201-1214 (2013).
5. Haq, E., Contreras, M.A., Giri, S., *et al.* Dysfunction of peroxisomes in twitcher mice brain: A possible mechanism of psychosine-induced disease. *Biochem. Biophys. Res. Commun.* **343(1)**, 229-238 (2006).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM