

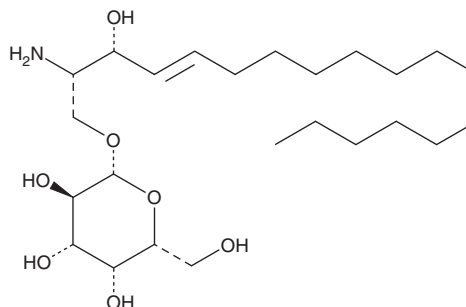
# PRODUCT INFORMATION



## 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<sub>24</sub>H<sub>47</sub>NO<sub>7</sub>  
**FW:** 461.6  
**Purity:** ≥98%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥2 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.<sup>1-3</sup> 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).<sup>1</sup> 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.<sup>4</sup> Galactosylsphingosine (10 and 15 μM) inhibits gene transcription mediated by peroxisome proliferator-activated receptor α (PPARα) in reporter assays using C6 glial cells.<sup>5</sup> Levels of galactosylsphingosine are increased in postmortem brain from patients with Krabbe disease, a lysosomal storage disorder characterized by a β-galactosylceramidase deficiency.<sup>1-3,5</sup>

### 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).
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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<sup>+</sup>-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).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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#### 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