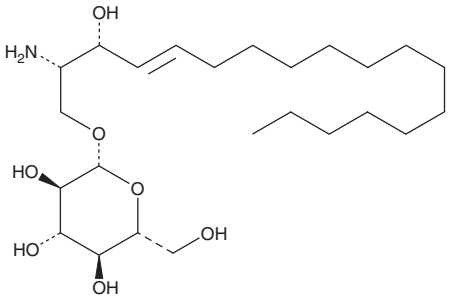
PRODUCT INFORMATION

1-β-D-Glucosylsphingosine

Item No. 31556

CAS Registry No.:	52050-17-6
Formal Name:	(2S,3R,4E)-2-amino-3-hydroxy-4-octadecen-1-yl, β-D-glucopyranoside
Synonyms:	Glucosyl-C_{18}-sphingosine, Glucosylsphingosine (d18:1)
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

1-β-D-Glucosylsphingosine is supplied as a solid. A stock solution may be made by dissolving the 1-β-D-glucosylsphingosine in the solvent of choice, which should be purged with an inert gas. 1-β-D-Glucosylsphingosine is soluble in ethanol, methanol, and a 2:1 solution of chloroform:methanol.

Description

1-β-D-Glucosylsphingosine is a glucosylsphingosine, which are deacetylated lysolipid derivatives of glucocerebrosides (Item Nos. 23206 | 23207 | 25850).[1] They are formed when sphingosines undergo glucosidation by UDP-glucose.[2] Glucosylsphingosines completely reduce neurite outgrowth and induce death of LA-N-2 cells when used at concentrations of 10 and 50 µM, respectively. They also decrease the activity of glucocerebrosidase in LA-N-2 cells in a concentration-dependent manner. Glucosylsphingosine levels are elevated in patients with Gaucher's disease, both in the spleen (in types 1, 2, and 3) and brain (types 2 and 3), thus, glucosylsphingosine has been used as a key biomarker of the disease.[1,3] This product contains 1-β-D-glucosylsphingosine (d18:1) isolated from bovine buttermilk. *As this product is derived from a natural source, there may be variations in the sphingoid backbone.*

References

1. Murugesan, V., Chuang, W.-L., Liu, J., *et al*. Glucosylsphingosine is a key biomarker of Gaucher disease. *Am. J. Hematol.* **91(11)**, 1082-1089 (2016).
2. Schueler, U.H., Kolter, T., Kaneski, C.R., *et al*. Toxicity of glucosylsphingosine (glucopsychosine) to cultured neuronal cells: A model system for assessing neuronal damage in Gaucher disease type 2 and 3. *Neurobiol. Dis.* **14(3)**, 595-601 (2003).
3. Orvisky, E., Park, J.K., LaMarca, M.E., *et al*. Glucosylsphingosine accumulation in tissues from patients with Gaucher disease: Correlation with phenotype and genotype. *Mol. Genet. Metab.* **76(4)**, 262-270 (2002).

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