PRODUCT INFORMATION

C16 Glucosylceramide-d_3 (d18:1/16:0-d_3)

Item No. 24621

Formal Name: N-((2S,3R,E)-3-hydroxy-1-(((2R,3R,4S,5S,6R)-3,4,5-trihydroxy-6-(hydroxymethyl)tetrahydro-2H-pyran-2-yl)oxy)octadec-4-en-2-yl) hexadecanamide-d_3

Synonyms: N-ω-CD_3-Hexadecanoyl-glucopsychosine, GluCer(d18:1/16:0-d_3), Glucosylceramide-d_3 (d18:1/16:0-d_3)

MF: $C_{40}H_{74}D_3NO_8$

FW: 703.1

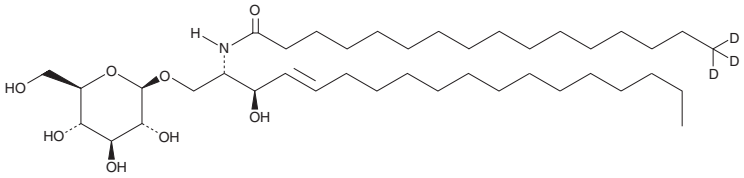
Chemical Purity: ≥98% (C16 Glucosylceramide)

Deuterium Incorporation: ≥99% deuterated forms (d_1-d_3); ≤1% d_0

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

C16 Glucosylceramide-d_3 (d18:1/16:0-d_3) is supplied as a solid. A stock solution may be made by dissolving the C16 glucosylceramide-d_3 (d18:1/16:0-d_3) in the solvent of choice. C16 Glucosylceramide-d_3 (d18:1/16:0-d_3) is soluble in a 2:1 solution of chloroform:methanol.

Description

C16 Glucosylceramide-d_3 is intended for use as an internal standard for the quantification of C16 glucosylceramide by GC- or LC-MS. C16 glucosylceramide is an endogenous bioactive sphingolipid.[1,2] It is a precursor in the synthesis of C16 lactosylceramide (Item No. 24352) that is formed *via* metabolism of C16 ceramide (Item No. 10681) by glucosylceramide synthase.[3] Inhalation of C16 glucosylceramide reduces lung colonization by *P. aeruginosa* and increases survival in a mouse model of cystic fibrosis.[1] C16 Glucosylceramide levels are elevated in the plasma of Parkinson's disease patients with cognitive impairments.[2] *As this product is derived from a natural source, there may be variations in the sphingoid backbone.*

References

1. Kovacic, B., Sehl, C., Wilker, B., *et al.* Glucosylceramide critically contributes to the host defense of cystic fibrosis lungs. *Cell Physiol. Biochem.* **41(3)**, 1208-1218 (2017).
2. Mielke, M.M., Maetzler, W., Haughey, N.J., *et al.* Plasma ceramide and glucosylceramide metabolism is altered in sporadic Parkinson's disease and associated with cognitive impairment: A pilot study. *PLoS One* **8(9)**, e73094 (2013).
3. Holland, W.L. and Summers, S.A. Sphingolipids, insulin resistance, and metabolic disease: New insights from *in vivo* manipulation of sphingolipid metabolism. *Endocr. Rev.* **29(4)**, 381-402 (2008).

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