

PRODUCT INFORMATION



C16 Glucosylceramide-d₃ (d18:1/16:0-d₃)

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-d₃

Synonyms: N-ω-CD₃-Hexadecanoyl-glucosylpsychosine, GluCer(d18:1/16:0-d₃), Glucosylceramide-d₃ (d18:1/16:0-d₃)

MF: C₄₀H₇₄D₃NO₈

FW: 703.1

Chemical Purity: ≥98% (C16 Glucosylceramide)

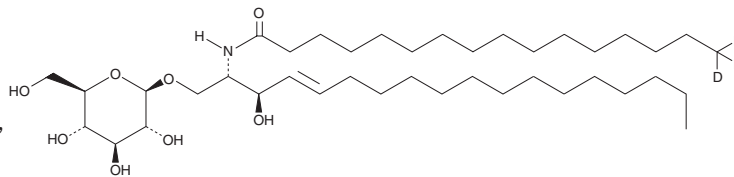
Deuterium

Incorporation: ≥99% deuterated forms (d₁-d₃); ≤1% d₀

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-d₃ (d18:1/16:0-d₃) is supplied as a solid. A stock solution may be made by dissolving the C16 glucosylceramide-d₃ (d18:1/16:0-d₃) in the solvent of choice. C16 Glucosylceramide-d₃ (d18:1/16:0-d₃) is soluble in a 2:1 solution of chloroform:methanol.

Description

C16 Glucosylceramide-d₃ 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).

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