

PRODUCT INFORMATION



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

Item No. 24625

Formal Name: N-[(1S,2R,3E)-1-[[[4-O-β-D-galactopyranosyl-β-D-glucopyranosyl]oxy]methyl]-2-hydroxy-3-heptadecen-1-yl]-hexadecanamide-d₃

Synonyms: C16 Lactosyl(β) Ceramide-d₃ (d18:1/16:0-d₃), LacCer(d18:1/16:0-d₃), Lactosylceramide-d₃ (d18:1/16:0-d₃), N-Hexadecanoyl Lactosylceramide-d₃, N-ω-CD₃-Hexadecanoyl-lactosylceramide

MF: C₄₆H₈₄D₃NO₁₃

FW: 865.2

Chemical Purity: ≥98% (C16 Lactosylceramide)

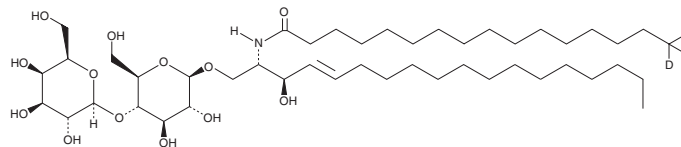
Deuterium

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 Lactosylceramide-d₃ (d18:1/16:0-d₃) is intended for use as an internal standard for the quantification of C16 lactosylceramide (Item No. 24352) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

C16 Lactosylceramide -d₃ (d18:1/16:0-d₃) is supplied as a solid. A stock solution may be made by dissolving the C16 lactosylceramide-d₃ (d18:1/16:0-d₃) in the solvent of choice. C16 Lactosylceramide-d₃ (d18:1/16:0-d₃) is soluble in a 5:1:0.1 solution of chloroform:methanol:DI water.

Description

C16 Lactosylceramide is an endogenous bioactive sphingolipid.¹ It forms membrane microdomains with Lyn kinase and the α_i subunits of inhibitory G protein-coupled receptors (GPCRs), suggesting a role in cell signaling. Plasma levels of C16 lactosylceramide are elevated in insulin-resistant cattle.² C16 Lactosylceramide is also upregulated in a mouse model of Niemann-Pick type C1 disease, a neurodegenerative cholesterol-sphingolipid lysosomal storage disorder.³ As this product is derived from a natural source, there may be variations in the sphingoid backbone.

References

1. Iwabuchi, K., Nakayama, H., Oizumi, A., *et al.* Role of ceramide from glycosphingolipids and its metabolites in immunological and inflammatory responses in humans. *Mediators Inflamm.* **2015**, 120748 (2015).
2. Rico, J.E., Bandaru, V.V., Dorskind, J.M., *et al.* Plasma ceramides are elevated in overweight Holstein dairy cows experiencing greater lipolysis and insulin resistance during the transition from late pregnancy to early lactation. *J. Dairy Sci.* **98(11)**, 7757-7770 (2015).
3. Praggastis, M., Tortelli, B., Zhang, J., *et al.* A murine Niemann-Pick C1 I1061T knock-in model recapitulates the pathological features of the most prevalent human disease allele. *J. Neurosci.* **35(21)**, 8091-8106 (2015).

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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