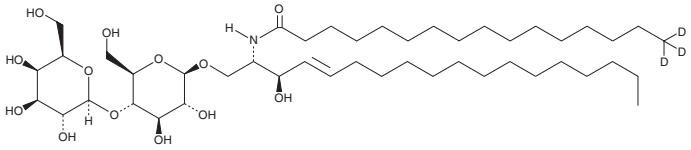
PRODUCT INFORMATION

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

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-d_3

Synonyms: C16 Lactosyl(β) Ceramide-d_3 (d18:1/16:0-d_3), LacCer(d18:1/16:0-d_3), Lactosylceramide-d_3 (d18:1/16:0-d_3), N-Hexadecanoyl Lactosylceramide-d_3, N-ω-CD_3-Hexadecanoyl-lactosylceramide

MF: $C_{46}H_{84}D_3NO_{13}$

FW: 865.2

Chemical Purity: ≥98% (C16 Lactosylceramide)

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 Lactosylceramide-d_3 (d18:1/16:0-d_3) 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 -d_3 (d18:1/16:0-d_3) is supplied as a solid. A stock solution may be made by dissolving the C16 lactosylceramide-d_3 (d18:1/16:0-d_3) in the solvent of choice. C16 Lactosylceramide-d_3 (d18:1/16:0-d_3) 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).

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