

PRODUCT INFORMATION



C22 Glucosylceramide-d₄ (d18:1/22:0-d₄)

Item No. 9003462

CAS Registry No.: 2738376-81-1
Formal Name: N-[(1S,2R,3E)-1-[(β-D-glucopyranosyloxy)methyl]-2-hydroxy-3-heptadecen-1-yl]-docosanamide-12,12,13,13-d₄
Synonyms: N-Docosanoyl-glucopsychosine-d₄, N-Docosanoyl-β-glucosylsphingosine-d₄, GluCer(18:1/22:0-d₄), N-C22:0-Glucocerebroside-d₄, C22 Glucosylceramide-d₄, Glucosylceramide-d₄ (d18:1/22:0-d₄)

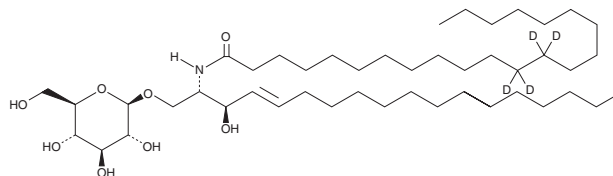
MF: C₄₆H₈₅D₄NO₈
FW: 788.2
Chemical Purity: ≥98% (C22 Glucosylceramide)

Deuterium Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

C22 Glucosylceramide-d₄ (d18:1/22:0-d₄) is intended for use as an internal standard for the quantification of C22 glucosylceramide (Item No. 23210) 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).

Description

C22 Glucosylceramide is an endogenous glucosylceramide.¹⁻³ Glucosylceramides are major constituents of skin lipid membranes where they play a role in maintaining the water permeability barrier. They are precursors in the synthesis of lactosylceramide (Item No. 16983), as well as oligoglycolipids and gangliosides. Phospholipase A₂ (PLA₂) type X11A knockdown increases C22 glucosylceramide expression in rat brain.³ It is also increased in the brain, but not the liver or spinal cord, of mice fed a methionine-restricted diet.² In human athletes, plasma levels of C22 glucosylceramide increase during exercise and return to basal levels during recovery.¹

References

1. Bergman, B.C., Brozinick, J.T., Strauss, A., *et al.* Serum sphingolipids: Relationships to insulin sensitivity and changes with exercise in humans. *Am. J. Physiol. Endocrinol. Metab.* **309(4)**, E398-E408 (2015).
2. Jové, M., Ayala, V., Ramírez-Núñez, O., *et al.* Specific lipidome signatures in central nervous system from methionine-restricted mice. *J. Proteome Res.* **12(6)**, 2679-2689 (2013).
3. Ee, S.-M., Lo, Y.-L., Shui, G., *et al.* Distribution of secretory phospholipase A₂ X11A in the brain and its role in lipid metabolism and cognition. *Mol. Neurobiol.* **50(1)**, 60-75 (2014).

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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