

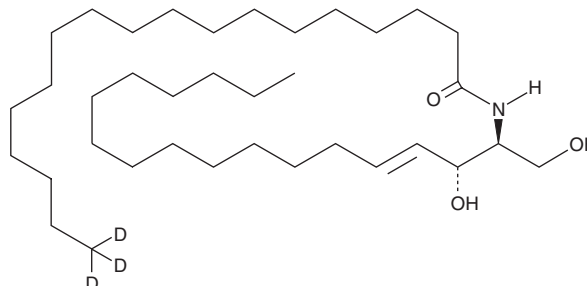
# PRODUCT INFORMATION



## C18 Ceramide-d<sub>3</sub> (d18:1/18:0)

Item No. 24396

**CAS Registry No.:** 2011762-82-4  
**Formal Name:** N-[(1S,2R,3E)-2-hydroxy-1-(hydroxymethyl)-3-heptadecen-1-yl-d<sub>3</sub>]-octadecanamide  
**Synonyms:** C18 Ceramide-d<sub>3</sub>, Cer(d18:1/18:0)-d<sub>3</sub>, Ceramide-d3 (d18:1/18:0-d<sub>3</sub>)  
**MF:** C<sub>36</sub>H<sub>68</sub>D<sub>3</sub>NO<sub>3</sub>  
**FW:** 569.0  
**Chemical Purity:** ≥95% (C18 Ceramide)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>3</sub>); ≤1% d<sub>0</sub>  
**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

C18 Ceramide-d<sub>3</sub> (d18:1/18:0) is intended for use as an internal standard for the quantification of C18 ceramide (d18:1/18:0) (Item No. 19556) 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).

C18 Ceramide-d<sub>3</sub> (d18:1/18:0) is supplied as a solid. A stock solution may be made by dissolving the C18 ceramide-d<sub>3</sub> (d18:1/18:0) in the solvent of choice. C18 Ceramide-d<sub>3</sub> (d18:1/18:0) is soluble in organic solvents such as chloroform, hot ethanol, and dimethyl formamide, which should be purged with an inert gas.

### Description

C18 Ceramide is an endogenous bioactive sphingolipid. It is the primary short-chain ceramide found in brain tissue whose synthesis is regulated by longevity-assurance homologue 1 (Lass1) in mice.<sup>1</sup> Increased expression of C18 ceramide reduces cell growth in UM-SCC-22A squamous cell carcinoma cells.<sup>2</sup> It is selectively downregulated in 32 human head and neck squamous cell carcinoma tumor tissues as compared to non-squamous tumor tissues. C18 Ceramide concentration is significantly higher in muscle tissue of type 2 diabetic patients compared with non-diabetic patients and is positively correlated to body mass index and inversely related to insulin sensitivity.<sup>3</sup>

### References

1. Mizutani, Y., Kihara, A., and Igarashi, Y. Mammalian Lass6 and its related family members regulate synthesis of specific ceramides. *Biochem J.* **390**(Pt. 1), 263-271 (2005).
2. Koybasi, S., Senkal, C.E., Sundararaj, K., et al. Defects in cell growth regulation by C18:0-ceramide and longevity assurance gene 1 in human head and neck squamous cell carcinomas. *J. Biol. Chem.* **279**(43), 44311-44319 (2004).
3. Bergman, B.C., Brozinick, J.T., Strauss, A., et al. Muscle sphingolipids during rest and exercise: A C18:0 signature for insulin resistance in humans. *Diabetologia* **59**(3), 785-791 (2016).

#### 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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