

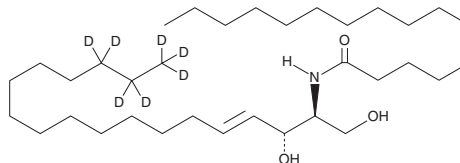
PRODUCT INFORMATION



C16 Ceramide-d₇ (d18:1-d₇/16:0)

Item No. 22787

CAS Registry No.: 1840942-13-3
Formal Name: N-((2S,3R,E)-1,3-dihydroxyoctadec-4-en-2-yl-16,16,17,17,18,18,18-d₇)palmitamide
Synonyms: Cer-d₇ (d18:1-d₇/16:0), C16 Ceramide (d18:1-d₇/16:0)-d₇, N-hexadecanoyl-D-erythro-Sphingosine-d₇
MF: C₃₄H₆₀D₇NO₃
FW: 545.0
Chemical Purity: ≥95% (C16 Ceramide)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₇); ≤1% d₀
Supplied as: A crystalline 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 Ceramide-d₇ (d18:1-d₇/16:0) is intended for use as an internal standard for the quantification of C16 ceramide (d18:1/16:0) 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 Ceramide-d₇ (d18:1-d₇/16:0) is supplied as a crystalline solid. A stock solution may be made by dissolving the C16 Ceramide-d₇ (d18:1-d₇/16:0) in the solvent of choice, which should be purged with an inert gas. C16 Ceramide-d₇ (d18:1-d₇/16:0) is soluble in the organic solvent dimethyl formamide, at a concentration of approximately 0.15 mg/ml.

Description

C16 Ceramide is a sphingolipid. It incorporates into the mitochondrial outer membrane and forms channels that increase its permeability.¹ C16 Ceramide levels are increased by PMP or MAPP in isolated human neutrophils and are correlated with an increase in apoptosis.² It accumulates in the lungs of patients with cystic fibrosis compared with the lungs of patients with pulmonary hypertension.³ Plasma levels of C16 ceramide are also increased in patients with acute coronary syndrome, and an increased plasma ratio of C16 to C24:0 ceramide is associated with major adverse cardiac events.⁴ It is also increased in tumor tissue from patients with breast cancer and is associated with metastatic cancer.⁵

References

1. Siskind, L.J., Kolesnick, R.N., and Colombini, M. Ceramide forms channels in mitochondrial outer membranes at physiologically relevant concentrations. *Mitochondrion* **6(3)**, 118-125 (2006).
2. Seumois, G., Fillet, M., Gillet, L., et al. De novo C₁₆- and C₂₄-ceramide generation contributes to spontaneous neutrophil apoptosis. *J. Leukoc. Biol.* **81(6)**, 1477-1486 (2007).
3. Brodli, M., McKean, M.C., Johnson, G.E., et al. Ceramide is increased in the lower airway epithelium of people with advanced cystic fibrosis lung disease. *Am. J. Respir. Crit. Care Med.* **182(3)**, 369-375 (2010).
4. Anroedh, S., Hilvo, M., Akkerhuis, K.M., et al. Plasma concentrations of molecular lipid species predict long-term clinical outcome in coronary artery disease patients. *J. Lipid Res.* **59(9)**, 1729-1737 (2018).
5. Schiffmann, S., Sandner, J., Birod, K., et al. Ceramide synthases and ceramide levels are increased in breast cancer tissue. *Carcinogenesis* **30(5)**, 745-752 (2009).

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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