

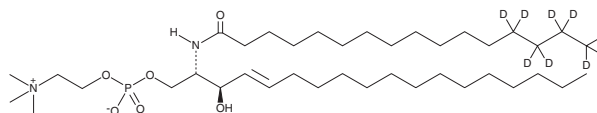
PRODUCT INFORMATION



C16 Sphingomyelin-d₉ (d18:1/16:0-d₉)

Item No. 27551

CAS Registry No.: 2415226-88-7
Formal Name: (7S)-4-hydroxy-7-[(1R,2E)-1-hydroxy-2-hexadecenyl]-N,N,N-trimethyl-9-oxo-3,5-dioxo-8-aza-4-phosphatetracosan-21,21,22,22,23,23,24,24,24-d₉-1-aminium, 4-oxide, inner salt
Synonyms: Palmitoyl Sphingomyelin-d₉, N-Palmitoyl-D-erythro-Sphingosylphosphorylcholine-d₉, SM(d18:1/16:0-d₉), Sphingomyelin (d18:1/16:0-d₉)
MF: C₃₉H₇₀D₉N₂O₆P
FW: 712.1
Chemical Purity: ≥95% (C16 Sphingomyelin)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₉); ≤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 Sphingomyelin-d₉ (d18:1/16:0-d₉) is intended for use as an internal standard for the quantification of C16 sphingomyelin (Item No. 10007946) 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 Sphingomyelin-d₉ (d18:1/16:0-d₉) is supplied as a crystalline solid. A stock solution may be made by dissolving the C16 sphingomyelin-d₉ (d18:1/16:0-d₉) in the solvent of choice, which should be purged with an inert gas. C16 Sphingomyelin-d₉ (d18:1/16:0-d₉) is soluble in the organic solvent ethanol at a concentration of approximately 10 mg/ml.

Description

C16 Sphingomyelin is a naturally occurring sphingolipid.¹⁻³ Levels of C16 sphingomyelin are elevated in the prefrontal cortex and cerebellum in a rat model of diabetes induced by streptozotocin (STZ; Item No. 13104), as well as in the liver in mouse models of Niemann-Pick type C1 disease.^{1,2} Plasma levels of C16 sphingomyelin are decreased in patients with prostate cancer.³ Model membranes containing C16 sphingomyelin, 1-palmitoyl-2-oleoyl-sn-glycero-3-PC (POPC; Item No. 15102), and cholesterol (Item No. 9003100) have been used in the study of lipid raft dynamics and membrane organization.^{4,5} As this product is derived from a natural source, there may be variations in the sphingoid backbone.

References

1. Fiedorowicz, A., Prokopiuk, S., Zendzian-Piotrowska, M., et al. *Neuroscience* **256**, 282-291 (2014).
2. Praggastis, M., Tortelli, B., Zhang, J., et al. *J. Neurosci.* **35**(21), 8091-8106 (2015).
3. Awwad, H.M., Ohlmann, C.H., Stoeckle, M., et al. *Biochimie* **126**, 108-114 (2016).
4. de Almeida, R.F.M., Loura, L.M.S., Fedorov, A., et al. *J. Mol. Biol.* **346**(4), 1109-1120 (2005).
5. Halling, K.K., Ramstedt, B., Nyström, J.H., et al. *Biophys. J.* **95**(8), 3861-3871 (2008).

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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