

# PRODUCT INFORMATION



## C26 Sphingomyelin-d<sub>4</sub> (d18:1/26:0-d<sub>4</sub>)

Item No. 9003460

**Formal Name:** (2S,3R,E)-2-(hexacosanamido-12,12,13,13-d<sub>4</sub>)-3-hydroxyoctadec-4-en-1-yl

**Synonyms:** 2-(trimethylammonio)ethyl phosphate  
Ceroyl Sphingomyelin-d<sub>4</sub>,  
N-Hexacosanoyl-D-erythro-Sphingosylphosphorylcholine-d<sub>4</sub>,  
SM(d18:1/26:0-d<sub>4</sub>), Sphingomyelin-d<sub>4</sub>  
(d18:1/26:0-d<sub>4</sub>)

**MF:** C<sub>49</sub>H<sub>95</sub>D<sub>4</sub>N<sub>2</sub>O<sub>6</sub>P  
**FW:** 847.3

**Chemical Purity:** ≥98% (C26 Sphingomyelin)

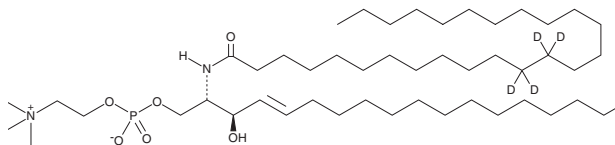
### Deuterium

**Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>4</sub>); ≤1% d<sub>0</sub>

**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

C26 Sphingomyelin-d<sub>4</sub> (d18:1/26:0-d<sub>4</sub>) is intended for use as an internal standard for the quantification of C26 sphingomyelin (Item No. 9003457) 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

C26 Sphingomyelin is a sphingolipid that has been found in serum and cell or brain extracts.<sup>1,2,3</sup> C26 Sphingomyelin levels are increased in the serum of patients with hemophagocytic lymphohistiocytosis, an inflammatory condition characterized by excessive immune activation.<sup>3</sup> C26 Sphingomyelin has been used a component of monolayers to study the influence of sphingomyelin acyl chain length on sphingomyelin-sterol interactions.<sup>4</sup>

## References

1. Wang, J.-R., Zhang, H., Yau, L.D., *et al.* Improved sphingolipidomic approach based on ultra-high performance liquid chromatography and multiple mass spectrometries with application to cellular neurotoxicity. *Anal. Chem.* **86**(12), 5688-5696 (2014).
2. Willmann, J., Mahlstedt, K., Leibfritz, D., *et al.* Characterization of sphingomyelins in lipid extracts using a HPLC-MS-offline-NMR method. *Anal. Chem.* **79**(11), 4188-4191 (2007).
3. Jenkins, R.W., Clarke, C.J., Lucas, J.T., Jr., *et al.* Evaluation of the role of secretory sphingomyelinase and bioactive sphingolipids as biomarkers in hemophagocytic lymphohistiocytosis. *Am. J. Hematol.* **88**(11), E265-E272 (2013).
4. Li, X.M., Momsen, M.M., Brockman, H.L., *et al.* Sterol structure and sphingomyelin acyl chain length modulate lateral packing elasticity and detergent solubility in model membranes. *Biophys. J.* **85**(6), 3788-3801 (2003).

### 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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