

# PRODUCT INFORMATION



## C16 Sphingomyelin-<sup>13</sup>C (d18:1/16:0-<sup>13</sup>C)

Item No. 24452

CAS Registry No.: 144236-99-7

Formal Name: [R-[R\*,S\*-(E)]]-4-hydroxy-7-(1-hydroxy-2-hexadecenyl)-N,N,N-trimethyl-9-oxo-3,5-dioxo-8-aza-4-phosphatetracosan-1-aminium-9-<sup>13</sup>C, 4-oxide, inner salt

Synonyms: Palmitoyl Sphingomyelin-<sup>13</sup>C,  
N-Palmitoyl-D-erythro-Sphingosylphosphorylcholine-<sup>13</sup>C,  
SM(d18:1/16:0-<sup>13</sup>C),  
Sphingomyelin (d18:1/16:0-<sup>13</sup>C)

MF: C<sub>38</sub>[<sup>13</sup>C] H<sub>79</sub>N<sub>2</sub>O<sub>6</sub>P

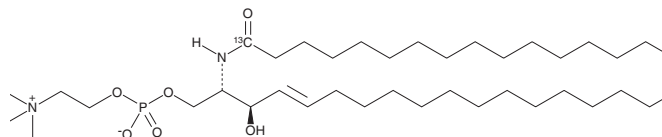
FW: 704.0

Purity: ≥98%

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

C16 Sphingomyelin-<sup>13</sup>C (d18:1/16:0-<sup>13</sup>C) is supplied as a solid. A stock solution may be made by dissolving the C16 sphingomyelin-<sup>13</sup>C (d18:1/16:0-<sup>13</sup>C) in the solvent of choice, which should be purged with an inert gas. C16 Sphingomyelin-<sup>13</sup>C (d18:1/16:0-<sup>13</sup>C) is soluble in organic solvents such as chloroform, methanol, and ethanol.

### Description

C16 Sphingomyelin-<sup>13</sup>C is an isotopically enriched form of C16 sphingomyelin (Item No. 10007946) with carbon-13 occurring on the fatty acid portion. It is intended for use as an internal standard for the quantification of C16 sphingomyelin by GC- or LC-MS. C16 Sphingomyelin is a form of sphingomyelin containing palmitate (16:0) at the variable acylation position. It is the most common form of sphingomyelin found in eggs and is less abundant in the brain and in milk.<sup>1</sup> C16 Sphingomyelin interacts with cholesterol in ordered lipid domains (lipid rafts).<sup>2</sup> Sphingomyelinases remove phosphorylcholine from C16 sphingomyelin to produce C16 ceramide. While ceramides commonly induce apoptosis, ceramides with different fatty acid chain lengths might direct distinct functions and, in some cases, reduce apoptosis.<sup>3-5</sup>

### References

1. Quinn, P.J. and Wolf, C. *J. Phys. Chem. B* **114**(47), 15536-15545 (2010).
2. Megha, Sawatzki, P., Kolter, T., et al. *Biochimica et Biophysica Acta* **1768**(9), 2205-2212 (2007).
3. Ruvolo, P.P. *Pharmacol. Res.* **47**(5), 383-392 (2003).
4. White-Gilbertson, S., Mullen, T., Senkal, C., et al. *Oncogene* **28**(8), 1132-1141 (2009).
5. Senkal, C.E., Ponnusamy, S., Bielawski, J., et al. *FASEB J.* **24**(1), 296-308 (2010).

#### 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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