

PRODUCT INFORMATION



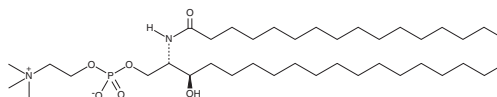
C16 Dihydrosphingomyelin (d18:0/16:0)

Item No. 46258

CAS Registry No.: 60322-02-3

Formal Name: 4-hydroxy-7S-[(1R)-1-hydroxyhexadecyl]-N,N,N-trimethyl-9-oxo-3,5-dioxo-8-aza-4-phosphatetracosan-1-aminium, 4-oxide, inner salt

Synonyms: DHSM(d18:0/16:0), dihydro-SM(d18:0/16:0), Dihydrosphingomyelin (d18:0/16:0), N-Palmitoyl-D-erythro-Dihydrosphingosylphosphorylcholine, Palmitoyl Dihydrosphingomyelin, N-Palmitoyl-sphinganine-phosphocholine



MF: C₃₉H₈₁N₂O₆P

FW: 705.1

Purity: ≥95%

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 Dihydrosphingomyelin (d18:0/16:0) is supplied as a solid. A stock solution may be made by dissolving the C16 dihydrosphingomyelin (d18:0/16:0) in the solvent of choice, which should be purged with an inert gas. C16 Dihydrosphingomyelin (d18:0/16:0) is slightly soluble (0.1-1 mg/ml) in a 2:1 solution of chloroform:methanol.

Description

C16 Dihydrosphingomyelin is a sphingolipid and saturated form of C16 sphingomyelin (Item No. 10007946). It is the most abundant phospholipid in the human lens and redistributes to the barrier region with increasing age, and serum levels of C16 dihydrosphingomyelin are decreased in patients with chronic migraine.^{1,2} C16 Dihydrosphingomyelin has been used as a helper lipid in the generation of liposomal lipid nanoparticles (LNPs) for the delivery of mRNA *in vitro* and *in vivo*.³ Incorporation of C16 dihydrosphingomyelin into liposomal LNPs increases blood circulation half-life and improves extrahepatic distribution and transfection in mice compared with liposomal LNPs containing egg sphingomyelin (ESM; Item No. 24345).

References

1. Deeley, J.M., Hankin, J.A., Friedrich, M.G., *et al.* Sphingolipid distribution changes with age in the human lens. *J. Lipid Res.* **51**(9), 2753-2760 (2010).
2. Ouro, A., Castro-Mosquera, M., Rodríguez-Arrizabalaga, M., *et al.* Elevated serum levels of acid sphingomyelinase in female patients with episodic and chronic migraine. *Antioxidants (Basel)* **14**(2), 159 (2025).
3. Liao, S., Fox, K., Birkenshaw, A., *et al.* Liposomal lipid nanoparticles containing dihydrosphingomyelin exhibit improved stability and extended hepatic and extrahepatic transfection. *J. Control Release* **396**, 115098 (2026).

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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