

PRODUCT INFORMATION



C6 NBD Sphingomyelin (d18:1/6:0)

Item No. 24328

Formal Name: (7S)-4-hydroxy-7-[(1R,2E)-1-hydroxy-2-hexadecen-1-yl]-N,N,N-trimethyl-14-[(7-nitro-2,1,3-benzoxadiazol-4-yl)amino]-9-oxo-3,5-dioxo-8-aza-4-phosphatetradecan-1-aminium, 4-oxide inner salt

Synonyms: N-hexanoyl-NBD Sphingosylphosphorylcholine, NBD SM(d18:1/6:0), NBD Sphingomyelin (d18:1/6:0)

MF: C₃₅H₆₁N₆O₉P

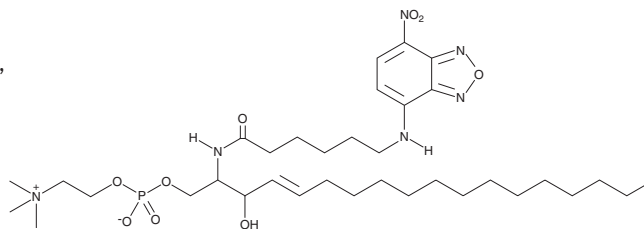
FW: 740.9

Purity: ≥98% (mixture of isomers)

Supplied as: A 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

C6 NBD Sphingomyelin (d18:1/6:0) is supplied as a solid. A stock solution may be made by dissolving the C6 NBD sphingomyelin (d18:1/6:0) in the solvent of choice. C6 NBD Sphingomyelin (d18:1/6:0) is soluble in organic solvents such as chloroform, methanol, and ethanol, which should be purged with an inert gas.

Description

C6 NBD sphingomyelin is a biologically active derivative of sphingomyelin (Item Nos. 22674 | 24345) that is tagged with a fluorescent C6 nitrobenzoxadiazole (C6 NBD; Item No. 18871) group. C6 NBD sphingomyelin has been used to study the metabolism and transport of sphingomyelins.^{1,2} It is degraded in the plasma membrane to C6 NBD ceramide (Item No. 62527) by neutral sphingomyelinase, an enzyme with three-fold higher activity in undifferentiated HT29 cells than in differentiated cells.¹ Unlike endogenous long-chain sphingomyelin and C6 sphingomyelin, C6 NBD sphingomyelin can be transported to the cell surface even in the presence of the vesicular transport inhibitor brefeldin A (Item No. 11861), but this transport can be blocked by multidrug resistance protein inhibitors in CHO cells.² This product is a mixture of the D-erythro and L-threo isomers of sphingomyelin. *As this product is derived from a natural source, there may be variations in the sphingoid backbone.*

References

1. Kok, J.W., Babia, T., Klappe, K., *et al.* Fluorescent, short-chain C₆-NBD-sphingomyelin, but not C₆-NBD-glucosylceramide, is subject to extensive degradation in the plasma membrane: Implications for signal transduction related to cell differentiation. *Biochem. J.* **309**(Pt 3), 905-912 (1995).
2. van Helvoort, A., Giudici, M.L., Thielemans, M., *et al.* Transport of sphingomyelin to the cell surface is inhibited by brefeldin A and in mitosis, where C₆-NBD-sphingomyelin is translocated across the plasma membrane by a multidrug transporter activity. *J. Cell Sci.* **110** (Pt 1), 75-83 (1997).

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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