

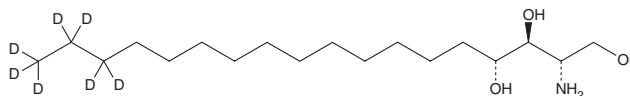
PRODUCT INFORMATION



Phytosphingosine-d₇

Item No. 9004341

Formal Name: (2S,3S,4R)-2-amino-octadecane-16,16,17,17,18,18,18-d₇-1,3,4-triol
Synonyms: D-ribo Phytosphingosine-d₇
4-D-hydroxy Sphinganine-d₇
MF: C₁₈H₃₂D₇NO₃
FW: 324.6
Chemical Purity: ≥98% (Phytosphingosine)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₇); ≤1% d₀
Supplied as: A neat 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

Phytosphingosine-d₇ is intended for use as an internal standard for the quantification of phytosphingosine 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).

Phytosphingosine-d₇ is supplied as a neat solid. A stock solution may be made by dissolving the phytosphingosine-d₇ in the solvent of choice, which should be purged with an inert gas. Phytosphingosine-d₇ is soluble in methanol.

Description

Phytosphingosine is a sphingolipid with a hydroxyl group at the C4 position that is found mainly in fungi and plants but also in animals, including humans.^{1,2} It is metabolized to odd-numbered fatty acids with 2-hydroxy palmitic acid (Item No. 22679) as an intermediate.³ Phytosphingosine dose-dependently induces cell death of CHO cells and inhibits carbachol-induced activation of phospholipase D (PLD) in CHO cells transfected with *C. elegans* muscarinic acetylcholine receptors (mAChRs).⁴ It is essential in the heat stress response in *S. cerevisiae*.⁵

References

1. Dickson, R.C. Sphingolipid functions in *Saccharomyces cerevisiae*: Comparison to mammals. *Annu. Rev. Biochem.* **67**, 27-48 (1998).
2. Schürer, N.Y., Plewig, G., and Elias, P.M. Stratum corneum lipid function. *Dermatologica* **183**(2), 77-94 (1991).
3. Kondo, N., Ohno, Y., Yamagata, M., *et al.* Identification of the phytosphingosine metabolic pathway leading to odd-numbered fatty acids. *Nat. Commun.* **5**, 5338 (2014).
4. Lee, J.S., Min, D.S., Park, C., *et al.* Phytosphingosine and C2-phytoceramide induce cell death and inhibit carbachol-stimulated phospholipase D activation in Chinese hamster ovary cells expressing the *Caenorhabditis elegans* muscarinic acetylcholine receptor. *FEBS. Lett.* **499**(1-2), 82-86 (2001).
5. Hannun, Y.A., Luberto, C., and Argraves, K.M. Enzymes of sphingolipid metabolism: From modular to integrative signaling. *Biochemistry* **40**(16), 4893-4903 (2001).

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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