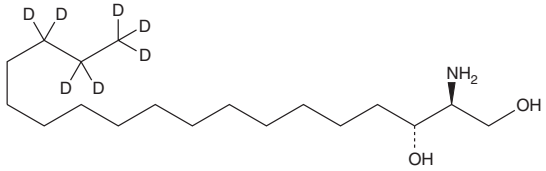
PRODUCT INFORMATION

Sphinganine-d_7 (d18:0)

Item No. 27145

CAS Registry No.: 1246304-35-7
Formal Name: 2S-amino-1,3R-octadecane-16,16,17,17,18,18,18-d_7-diol
Synonyms: Dihydrosphingosine-d_7, D-*erythro*-Dihydrosphingosine-d_7, Dihydro-D-*erythro*-Sphingosine-d_7, Sphinganine-d_7, D-*erythro*-Sphinganine-d_7
MF: $C_{18}H_{32}D_7NO_2$
FW: 308.6
Chemical Purity: ≥95% (Sphinganine (d18:0))
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_7); ≤1% d_0
Supplied as: A crystalline 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

Sphinganine-d_7 (d18:0) is intended for use as an internal standard for the quantification of sphinganine (d18:0) (Item No. 10007945) 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).

Sphinganine-d_7 (d18:0) is supplied as a crystalline solid. A stock solution may be made by dissolving the sphinganine-d_7 (d18:0) in the solvent of choice. Sphinganine-d_7 (d18:0) is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of sphinganine-d_7 (d18:0) in these solvents is approximately 2 and 10 mg/ml, respectively. Sphinganine-d_7 (d18:0) is also miscible in ethanol.

Description

Sphinganine (d18:0) is a precursor to ceramide and sphingosine as well as a substrate of sphingosine kinases, which generate sphinganine-1-phosphate (Item No. 62570).[1] Sphinganine (d18:0) levels increase significantly in response to certain mycotoxins, including fumonisins, as well as in some cancers.[2-4]

References

1. Smith, E.R. and Merrill, A.H., Jr. Differential roles of *de novo* sphingolipid biosynthesis and turnover in the 'Burst' of free sphingosine and sphinganine, and their 1-phosphates and N-acyl-derivatives, that occurs upon changing the medium of cells in culture. *J. Biol. Chem.* **270(32)**, 18749-18758 (1995).
2. Pruett, S.T., Bushnev, A., Hagedorn, K., *et al.* Biodiversity of sphingoid bases ("sphingosines") and related amino alcohols. *J. Lipid Res.* **49(8)**, 1621-1639 (2008).
3. Shephard, G.S., van der Westhuizen, L., and Sewram, V. Biomarkers of exposure to fumonisin mycotoxins: A review. *Food Addit. Contam.* **24(10)**, 1196-1201 (2007).
4. Yin, J., Miyazaki, K., Shaner, R.L., *et al.* Altered sphingolipid metabolism induced by tumor hypoxia - new vistas in glycolipid tumor markers. *FEBS Lett.* **584(9)**, 1872-1878 (2010).

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