

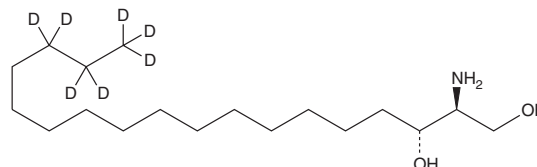
# PRODUCT INFORMATION



## Sphinganine-d<sub>7</sub> (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<sub>7</sub>-diol  
**Synonyms:** Dihydrosphingosine-d<sub>7</sub>, D-erythro-Dihydrosphingosine-d<sub>7</sub>, Dihydro-D-erythro-Sphingosine-d<sub>7</sub>, Sphinganine-d<sub>7</sub>, D-erythro-Sphinganine-d<sub>7</sub>  
**MF:** C<sub>18</sub>H<sub>32</sub>D<sub>7</sub>NO<sub>2</sub>  
**FW:** 308.6  
**Chemical Purity:** ≥95% (Sphinganine (d18:0))  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>7</sub>); ≤1% d<sub>0</sub>  
**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<sub>7</sub> (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<sub>7</sub> (d18:0) is supplied as a crystalline solid. A stock solution may be made by dissolving the sphinganine-d<sub>7</sub> (d18:0) in the solvent of choice. Sphinganine-d<sub>7</sub> (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<sub>7</sub> (d18:0) in these solvents is approximately 2 and 10 mg/ml, respectively. Sphinganine-d<sub>7</sub> (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).<sup>1</sup> Sphinganine (d18:0) levels increase significantly in response to certain mycotoxins, including fumonisins, as well as in some cancers.<sup>2-4</sup>

### 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).

#### 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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