

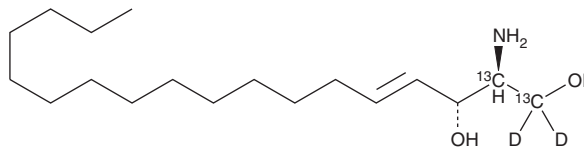
# PRODUCT INFORMATION



## Sphingosine- $^{13}\text{C}_2\text{-d}_2$ (d18:1)

Item No. 27875

**CAS Registry No.:** 2692623-81-5  
**Formal Name:** (2S,3R,4E)-2-amino-4-octadecene-1,1-d<sub>2</sub>-1,3-diol-1,2- $^{13}\text{C}_2$   
**Synonym:** D-erythro-Sphingosine C18- $^{13}\text{C}_2\text{-d}_2$   
**MF:** C<sub>16</sub>[ $^{13}\text{C}$ ]<sub>2</sub>H<sub>35</sub>D<sub>2</sub>NO<sub>2</sub>  
**FW:** 303.5  
**Chemical Purity:** ≥98% (Sphingosine (d18:1))  
**Deuterium**  
**Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>2</sub>); ≤1% d<sub>0</sub>  
**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

Sphingosine- $^{13}\text{C}_2\text{-d}_2$  (d18:1) is intended for use as an analytical standard for the quantification of sphingosine (d18:1) (Item No. 10007907) 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).

Sphingosine- $^{13}\text{C}_2\text{-d}_2$  (d18:1) is supplied as a solid. A stock solution may be made by dissolving the sphingosine- $^{13}\text{C}_2\text{-d}_2$  (d18:1) in the solvent of choice, which should be purged with an inert gas. Sphingosine- $^{13}\text{C}_2\text{-d}_2$  (d18:1) is soluble in methanol and chloroform.

### Description

Sphingosine (d18:1) is formed primarily from the breakdown of ceramide.<sup>1</sup> Sphingosine (d18:1) inhibits protein kinase C and phosphatidic acid phosphohydrolase, whereas it activates phospholipase D and diacylglycerol (DAG) kinase.<sup>1</sup> Phosphorylation of sphingosine (d18:1) by sphingosine kinases 1 and 2 (SPHK1, SPHK2) produces sphingosine-1-phosphate, a potent bioactive lipid that exhibits a broad spectrum of biological activities including cell proliferation, survival, migration, cytoskeletal organization, and morphogenesis.<sup>2-4</sup>

### References

1. Hannun, Y.A., Luberto, C., and Argraves, K.M. Enzymes of sphingolipid metabolism: From modular to integrative signaling. *Biochemistry* **40**(16), 4893-4903 (2001).
2. Takuwa, Y., Takuwa, N., and Sugimoto, N. The Edg family G protein-coupled receptors for lysophospholipids: Their signaling properties and biological activities. *J. Biochem.* **131**(6), 767-771 (2002).
3. Ishii, I., Fukushima, N., Ye, X., et al. Lysophospholipid receptors: Signaling and biology. *Annu. Rev. Biochem.* **73**, 321-354 (2004).
4. Kluk, M.J. and Hla, T. Signaling of sphingosine-1-phosphate via the S1P/EDG-family of G-protein-coupled receptors. *Biochim. Biophys. Acta* **1582**(1-3), 72-80 (2002).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 02/27/2023

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM