

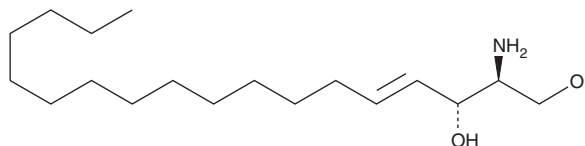
# PRODUCT INFORMATION



## Sphingosine (d18:1)

Item No. 10007907

**CAS Registry No.:** 123-78-4  
**Formal Name:** 2S-amino-4E-octadecene-1,3R-diol  
**Synonyms:** (-)-Sphingosine, D-erythro-Sphingosine C-18  
**MF:** C<sub>18</sub>H<sub>37</sub>NO<sub>2</sub>  
**FW:** 299.5  
**Purity:** ≥98%  
**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

Sphingosine (d18:1) is supplied as a crystalline solid. A stock solution may be made by dissolving the sphingosine (d18:1) in an organic solvent purged with an inert gas. Sphingosine (d18:1) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). Sphingosine (d18:1) is miscible in ethanol, whereas the solubility is approximately 2 and 10 mg/ml in DMSO and DMF, respectively.

If aqueous stock solutions are required for biological experiments, they can best be prepared by diluting the organic solvent into aqueous buffers or isotonic saline. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

### Description

Sphingosine (d18:1) is formed primarily from the breakdown of ceramide.<sup>1</sup> Sphingosine inhibits protein kinase C and phosphatidic acid phosphohydrolase, whereas it activates phospholipase D and diacylglycerol (DAG) kinase.<sup>1</sup> Phosphorylation of sphingosine by sphingosine kinases 1 and 2 (SPHK 1 and SPHK 2) 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**, 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**, 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.

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#### 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