

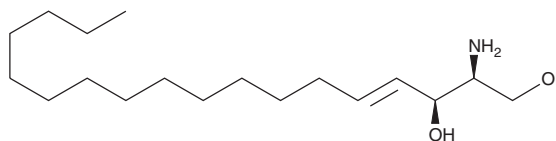
# PRODUCT INFORMATION



## L-threo-Sphingosine (d18:1)

Item No. 10010541

**CAS Registry No.:** 25695-95-8  
**Formal Name:** 2S-amino-4E-octadecene-1,3S-diol  
**Synonym:** L-threo-Sphingosine C18  
**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:** ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

L-threo-Sphingosine (d18:1) is supplied as a crystalline solid. A stock solution may be made by dissolving the L-threo-sphingosine (d18:1) in the solvent of choice. L-threo-Sphingosine (d18:1) is soluble in the organic solvent ethanol, which should be purged with an inert gas, at a concentration of approximately 0.25 mg/ml.

### Description

Sphingosines are long-chain base precursors of cellular sphingolipids and are used directly in the synthesis of ceramide. Sphingosine can exist in four stereoisomers, however only D-erythro-sphingosine occurs naturally. L-threo-Sphingosine C-18, an analog of D-erythro-sphingosine, inhibits protein kinase C in mixed micelle assays with 50% inhibition at 2.2 mol % making it a slightly more potent inhibitor compared to D-erythro-sphingosine (50% inhibition at 2.8 mol %) or other analogs of shorter alkyl chain length.<sup>1</sup> Addition of L-threo-Sphingosine C-18 to primary cultured cerebellar cells does not decrease serine palmitoyltransferase (SPT) activity, the rate-limiting enzyme in ceramide biosynthesis, whereas under similar conditions D-erythro-sphingosine inhibits SPT activity.<sup>2</sup>

### References

1. Merrill, A.H., Jr., Nimkar, S., Menaldino, D., *et al.* Structural requirements for long-chain (shingoid) base inhibition of protein kinase C *in vitro* and for the cellular effects of these compounds. *Biochemistry* **28**(8), 3138-3145 (1989).
2. Mandon, E.C., van Echten, G., Birk, R., *et al.* Shingolipid biosynthesis in cultured neurons: Down-regulation of serine palmitoyltransferase by sphingoid bases. *Eur. J. Biochem.* **198**(3), 667-674 (1991).

#### 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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