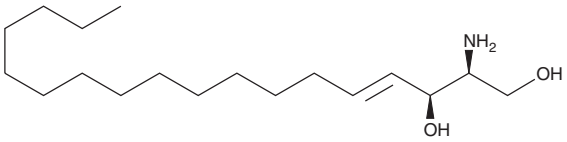
PRODUCT INFORMATION

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:	$C_{18}H_{37}NO_2$
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.[1] 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.[2]

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).

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