

PRODUCT DATA SHEET

N-Octanoyl-L-*threo*-sphingosine

Catalog number: 1830

Synonyms: N-C8:0-L-*threo*-Ceramide

Source: synthetic

Solubility: chloroform, ethanol, DMSO, DMF
(up to 5mg/ml)

CAS number: 175892-44-1

Molecular Formula: C₂₆H₅₁NO₃

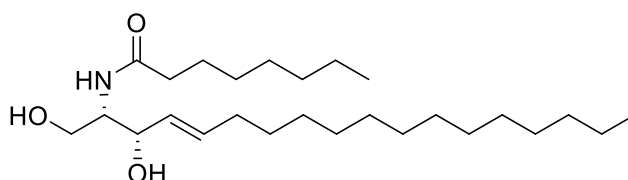
Molecular Weight: 426

Storage: -20°C

Purity: TLC: >98%, GC: >98%; identity confirmed by MS

TLC System: chloroform/methanol (90:10)

Appearance: solid



Application Notes:

This product is a high purity, non-natural L-*threo* ceramide that is ideal as a standard and for biological studies. D-*erythro* Ceramide is the natural ceramide isomer and is involved in many biological processes including induction of cell maturation, cell cycle arrest, terminal cell differentiation, cell senescence, and cell death.¹ Both the natural D-*erythro* and the non-natural L-*erythro* and the D- and L-*threo* ceramides display similar effectiveness in inducing apoptotic damage in cells.² The protein phosphatases PP1 and PP2A, which are involved in regulating apoptosis and cell growth, are activated by D-*erythro* ceramide but inhibited by L-*threo*, D-*threo*, and L-*erythro* ceramide.³ Both D-*erythro* and D-*threo* C2 ceramides have been found to be potent inducers of IL-6 production, while neither the L-*threo* or L-*erythro* stereoisomers of ceramide were effective.⁴ D- and L-*erythro* ceramide and D- and L-*threo* ceramide are also comparably effective inhibitors of protein kinase C.⁵

Selected References:

1. 2. N. S. Radin, "Killing tumours by ceramide-induced apoptosis: a critique of available drugs" *Biochemical Journal*, Vol. 371 pp. 243-256, 2003
2. W. Jarvis et al. "Induction of Apoptosis and Potentiation of Ceramide-mediated Cytotoxicity by Sphingoid Bases in Human Myeloid Leukemia Cells" *The Journal of Biological Chemistry*, Vol. 271 pp. 8275-8284, 1996
3. C. Chalfant et al. "Long Chain Ceramides Activate Protein Phosphatase-1 and Protein Phosphatase-2A Activation is Stereospecific and Regulated by Phosphatidic Acid" *The Journal of Biological Chemistry*, Vol. 274 pp. 20313-20317, 1999
4. S. Lauderkind et al. "Ceramide Induces Interleukin 6 Gene Expression in Human Fibroblasts" *The Journal of Experimental Medicine*, Vol. 182 pp. 599-604, 1995
5. T. Ariga et al. "Role of sphingolipid-mediated cell death in neurodegenerative diseases" *Journal of Lipid Research*, Vol. 39 pp. 1-16, 1998

This product is to be used for research only. It is not intended for drug or diagnostic use, human consumption or to be used in food or food additives. Matreya assumes no liability for any use of this product by the end user. We believe the information, offered in good faith, is accurate.