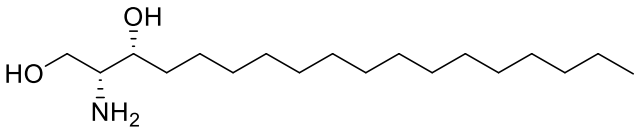
PRODUCT DATA SHEET

D-*threo*-Dihydrosphingosine

Catalog number: 1851
Synonyms: D-*threo*-sphinganine, C18 chain
Source: synthetic
Solubility: chloroform, methanol, ethanol, DMSO
CAS number: 6036-86-8
Molecular Formula: $C_{18}H_{39}NO_2$

Molecular Weight: 301
Storage: -20ºC
Purity: TLC: >98%, GC: >98%; identity confirmed by MS
TLC System: chloroform/methanol/DI water/ 2.5N ammonium hydroxide (70:20:1:1 by vol.)
Appearance: solid



Application Notes:

This product is a high purity, well-defined, D-*threo*-dihydrosphingosine which demonstrates unique properties as compared with the natural D-*erythro* isomer and is therefore ideal for use in comparison studies of dihydrosphingosine. Sphinganine (dihydrosphingosine) is the precursor of dihydroceramide which is then desaturated to form ceramide. It is a critical intermediate in the synthesis of many complex sphingoid bases and ceramide analogs. It has been found that sphinganine can induce cell death in a number of types of malignant cells and is being tested for its pharmacological properties.[1] While both D-*threo* and L-*threo*-C2-dihydroceramide induced apoptosis in cells neither D-*erythro* nor L-*erythro*-C2-dihydroceramide showed activity.[2] A report has concluded that only the *erythro* isomers of dihydrosphingosine act as substrates for the enzyme sphingosine kinase with both of the *threo* isomers inhibiting its activity.[3]

Selected References:

1. W. Zheng "Fenretinide increases dihydroceramide and dihydrosphingolipids due to inhibition of dihydroceramide desaturase" Georgia Institute of Technology, *2006*
2. A. Bielawska "Selectivity of Ceramide-Mediated Biology Lack of Activity of *erythro*-Dihydroceramide" *Journal of Biological Chemistry*, vol. 268 pp. 26226-26232, *1993*
3. B. Buehrer and R. Bell "Inhibition of Sphingosine Kinase *in Vitro* and in Platelets Implications for Signal Transduction Pathways" *Journal of Biological Chemistry*, vol. 267 pp. 3154-3159, *1992*

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