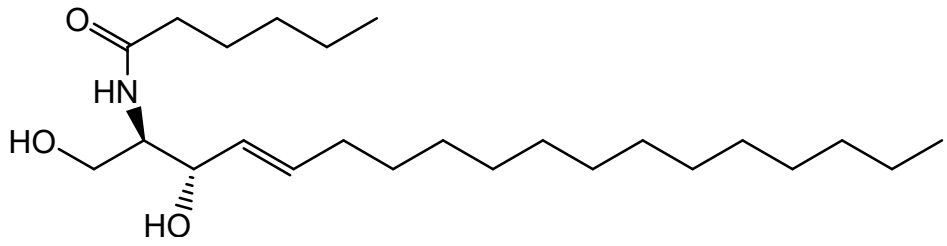
PRODUCT DATA SHEET

MATREYA LLC
Lipids and Biochemicals
A Cayman Chemical Company

N-Hexanoyl-L-*erythro*-sphingosine

Catalog number: 1848
Common Name: N-C6:0-L-*erythro*-Ceramide
Source: synthetic
Solubility: chloroform, ethanol, DMSO, DMF (up to 5 mg/ml)
CAS number: 189894-78-8
Molecular Formula: $C_{24}H_{47}NO_3$

Molecular Weight: 398
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 the L-*erythro* stereoisomer of natural D-*erythro*-hexanoyl ceramide. L-*erythro* ceramides are inactive in some ceramide functions, have different activities in other functions, and exhibit the same activity in yet other functions. L-*erythro*-N-acetyl ceramide has been shown to induce accumulation of greater levels of sphingosine than in control cells.[1] Generation of endogenous long-chain ceramide can be induced by exogenous short chain D-*erythro*-hexanoyl-ceramide but not by non-natural L-*erythro*-hexanoyl-ceramide.[2] Other examples of functions demonstrated by D-*erythro*, but not L-*erythro*, ceramides are several key downstream biological activities such as growth inhibition, cell cycle arrest, and modulation of telomerase activity.[2] Some viruses require the presence of ceramide in a membrane to be able to fuse to that membrane and it has been demonstrated that only D-*erythro* ceramide, and not L-*erythro* or D- or L-*threo* ceramides, supports the viral fusion.[3]

Selected References:

1. Y. Lee et al. "Sphingolipid metabolic changes during chiral C2-ceramides induced apoptosis in human leukemia cells" *Arch Pharm Res*, vol. 24 pp. 144-149, *2001*
2. Y. Hannun et al. "Biochemical Mechanisms of the Generation of Endogenous Long Chain Ceramide in Response to Exogenous Short Chain Ceramide in the A549 Human Lung Adenocarcinoma Cell Line" *The Journal of Biological Chemistry*, vol. 277 pp. 12960–12969, *2002*
3. J. Wilschut et al. "Sphingolipids Activate Membrane Fusion of Semliki Forest Virus in a Stereospecific Manner" *Biochemistry*, vol. 34 pp. 10319-10324, *1995*

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