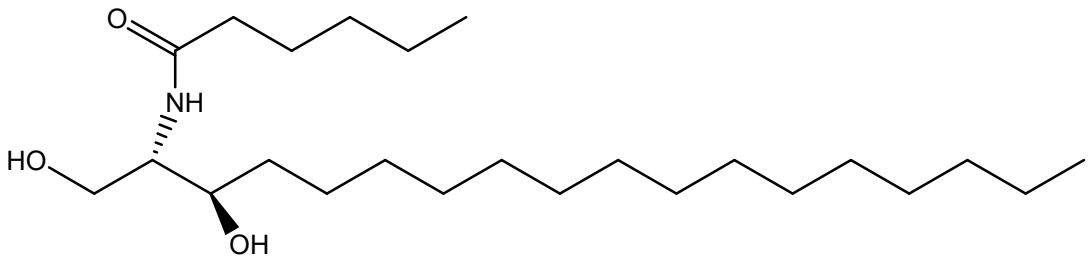
MATREYA LLC
Lipids and Biochemicals
2178 High Tech Road, State College, PA 16803
Tel. 814-355-1030 Fax 814-355-1031 www.matreya.com

PRODUCT DATA SHEET

N-Hexanoyl-D-*erythro*-dihydrosphingosine

Catalog number: 1910
Common Name: N-C6:0-D-*erythro*-Dihydroceramide; N-Hexanoyl-D-*erythro*-sphinganine
Source: synthetic
Solubility: chloroform, ethanol, methanol, DMSO

CAS number: 171039-13-7
Molecular Formula: $C_{24}H_{49}NO_3$
Molecular Weight: 400
Storage: -20°C
Purity: TLC >98%, GC >98%; identity confirmed by MS
TLC System: chloroform/methanol (90:10)
Appearance: solid



Application Notes:

This high purity and well-defined dihydroceramide is ideal as a standard and for biological studies.[1] Dihydroceramide is a critical intermediate in the synthesis of many complex sphingoid bases. Inhibition of dihydroceramide synthesis by some fungal toxins that have a similar structure causes an increase in sphinganine and sphinganine-1-phosphate and a decrease in other sphingolipids leading to a number of diseases including oesophageal cancer. Dihydroceramide, synthesized by the acylation of sphinganine, is subsequently converted into ceramide via a desaturase enzyme or into phytosphingosine via the C4-hydrozylase enzyme[2]. N-(4-Hydroxyphenyl) retinamide has been tested as an anti-cancer agent. It inhibits the dihydroceramide desaturase enzyme in cells resulting in a high concentration of dihydroceramide and dihydro-sphingolipids and this is thought to be the cause of the anti-cancer effects.[3] Dihydrosphingosine induces cell death in a number of types of malignant cells.

Selected References:

1. M. Jazwinski et al. "Suppression of Glucosylceramide Synthase Restores p53-Dependent Apoptosis in Mutant p53 Cancer Cells" *Cancer Research*, vol. 71 pp. 2276, *2011*
2. Y. Mizutani, A. Kihara, and Y. Igarashi "Identifcation of the human sphingolipid C4-hydroxylase, hDES2, and its up-regulation during keratinocyte differentiation" *FEBS Letters*, vol. 563 pp. 93-97, *2004*
3. W. Zheng "Fenretinide increases dihydroceramide and dihydrosphingolipids due to inhibition of dihydroceramide desaturase" Georgia Institute of Technology, *2006*