

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: C₂₄H₄₉NO₃

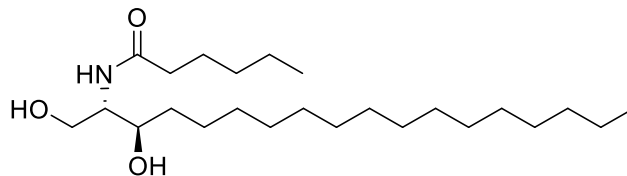
Molecular Weight: 400

Storage: -20°C

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

TLC System: chloroform/methanol (90:10 by vol.)

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-hydroxylase enzyme². 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 "Identification 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 dihydro-sphingolipids due to inhibition of dihydroceramide desaturase" Georgia Institute of Technology, 2006

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