

## PRODUCT DATA SHEET

### N,N-Dihexyl-D-erythro-sphingosine

**Catalog number:** 1896

**Synonyms:** Sphingosine with tertiary amine group

**Source:** synthetic

**Solubility:** chloroform, methanol, ethanol

**CAS number:** N/A

**Molecular Formula:** C<sub>30</sub>H<sub>61</sub>NO<sub>2</sub>

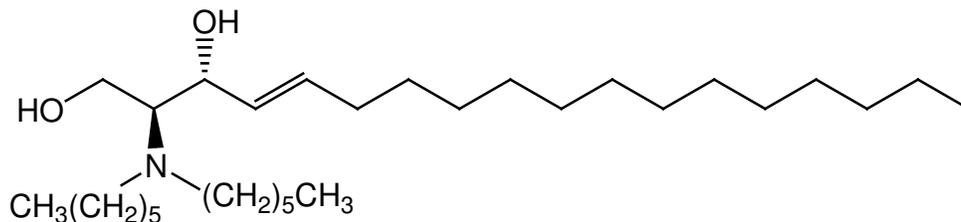
**Molecular Weight:** 468

**Storage:** -20°C

**Purity:** TLC: >95%

**TLC System:** chloroform/methanol/2.5N ammonium hydroxide (98:2:1)

**Appearance:** liquid



### **Application Notes:**

N,N-Dihexyl-D-erythro-sphingosine is an unnatural analog of the vital sphingolipid ceramide. Ceramide functions as a precursor in the synthesis of sphingomyelin, complex glycosphingolipids, and free sphingosine and it exerts numerous biological effects, including induction of cell maturation, cell cycle arrest, terminal cell differentiation, cell senescence, and cell death.<sup>1</sup> Instead of the normal fatty acid acylated to sphingosine N,N-Dihexyl-D-erythro-sphingosine contains two hexyl groups making it a tertiary amine rather than secondary. Ceramide analogs, such as N,N-Dihexyl-D-erythro-sphingosine, are able to induce an increase in ceramide levels in cells, leading to apoptosis, and may be useful in treating certain diseases.<sup>2</sup> N-Hexyl-glucosylceramide is a potent inhibitor of glucosylceramidase, the enzyme responsible for cleaving glucose from glucosylceramide.<sup>3</sup>

### **Selected References:**

1. N. S. Radin, "Killing tumours by ceramide-induced apoptosis: a critique of available drugs" *Biochemical Journal*, Vol. 371 pp. 243-256, 2003
2. J. Erickson and N. Radin "N-Hexyl-0-glucosyl sphingosine, an inhibitor of glucosyl ceramide, *beta*-glucosidase" *Journal of Lipid Research*, Vol. 14 pp. 133-137, 1973
3. S. Gatt et al. "Synthetic, non-natural sphingolipid analogs inhibit the biosynthesis of cellular sphingolipids, elevate ceramide and induce apoptotic cell death" *Biochimica et Biophysica Acta (BBA) - Molecular and Cell Biology of Lipids*, Vol. 1633(3) pp. 161-169, 2003

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