

# PRODUCT DATA SHEET

## D-erythro-Dihydrosphingosine

**Catalog number:** 1831

**Common Name:** D-erythro-Sphinganine, C18 chain

**Source:** synthetic

**Solubility:** chloroform, methanol, ethanol

**CAS number:** 764-22-7

**Molecular Formula:** C<sub>18</sub>H<sub>39</sub>NO<sub>2</sub>

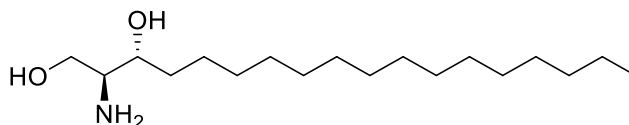
**Molecular Weight:** 301

**Storage:** -20°C

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

**TLC System:** chloroform/methanol/water/ ammonium hydroxide (70:20:1:1 by vol.)

**Appearance:** solid



### Application Notes:

This product is the natural *D-erythro* isomer 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.<sup>1</sup> 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.<sup>2</sup> Sphinganine has been found to mediate fumonisin (a toxic sphinganine analog) induced hypotension.<sup>3</sup> Yeasts contain mainly the saturated C18 base sphinganine rather than the unsaturated C18 base sphingosine which is common in animals.

### Selected References:

1. W. Zheng "Fenretinide increases dihydroceramide and dihydrosphingolipids due to inhibition of dihydroceramide desaturase" Georgia Institute of Technology, 2006
2. L. van der Westhuizen et al. "Sphingoid base levels in humans consuming fumonisin-contaminated maize in rural areas of the former Transkei, South Africa: a cross-sectional study" *Food Additives and Contaminants*, Vol. [http://www.informaworld.com/smpp/title~db=all~content=t713599661~tab=issueslist~branches=25 - v2525\(11\), pages 1385 - 1391, 2008](http://www.informaworld.com/smpp/title~db=all~content=t713599661~tab=issueslist~branches=25 - v2525(11), pages 1385 - 1391, 2008)
3. Shih-Hsuan Hsiao et al. "Effects of Exogenous Sphinganine, Sphingosine, and Sphingosine-1-Phosphate on Relaxation and Contraction of Porcine Thoracic Aortic and Pulmonary Arterial Rings" *Toxicological Sciences*, Vol. 86(1) Pp. 194-199, 2005

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