

PRODUCT DATA SHEET

N-Acetyl-L-erythro-sphingosine

Catalog number: 1847

Common names: N-C2:0-L-erythro-Ceramide

Source: synthetic

Solubility: chloroform, methanol, ethanol,
DMSO, DMF (up to 5 mg/ml)

CAS number: 150338-90-2

Molecular Formula: C₂₀H₃₉NO₃

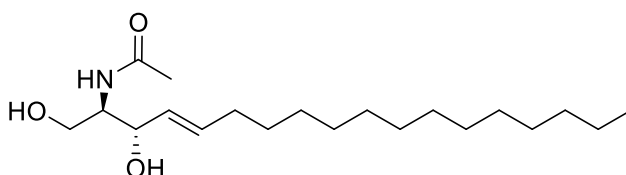
Molecular Weight: 342

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 product contains an L-erythro-sphingosine containing an acetic amide linkage and is useful for comparison studies against the natural D-erythro isomer. This product is also very useful as an internal standard^{1,2} and contains a short-chain fatty acid enabling it to enter easily into cells. L-erythro-Sphingosine is an inactive or less active isomer of the naturally occurring D-erythro-sphingosine. Natural sphingosine induces dephosphorylation of retinoblastoma gene product and inhibits cell growth while L-erythro-sphingosine is 5-8-fold less active. However, the L-erythro-sphingosine is taken up by cells to the same extent as the natural sphingosine indicating that cellular uptake was not the factor influencing activity.³ L-erythro-sphingosine, along with other sphingosine isomers, has been found to be an activator of 3-Phosphoinositide-dependent kinase 1.

Selected References:

1. T. Cunningham et al. "Product inhibition of secreted phospholipase A2 may explain lysophosphatidylcholines' unexpected therapeutic properties" *Journal of Inflammation*, 5:17 doi:10.1186/1476-9255-5-17, 2008
2. T. Cunningham et al "Uncompetitive Phospholipase A2 Inhibition by CHEC Sequences Including Oral Treatment of Experimental Autoimmune Myeloencephalitis" *The Open Enzyme Inhibition Journal*, vol. 2 pp. 1-7, 2009
3. Y. Hannun et al. "Stereoselectivity of Induction of the Retinoblastoma Gene Product (pRb) Dephosphorylation by D-erythro-Sphingosine Supports a Role for pRb in Growth Suppression by Sphingosine" *Biochemistry*, vol. 34 pp. 1885-1892, 1995

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