

Certificate of Analysis

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Product Name: *N,N*-Dimethylsphingosine

Catalog No.: 4640

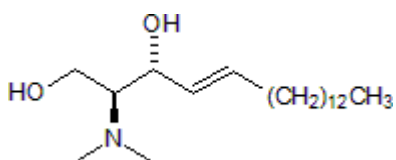
Batch No.: 1

CAS Number: 119567-63-4

IUPAC Name: (2*S*,3*R*,4*E*)-2-(Dimethylamino)-4-octadecene-1,3-diol

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	C ₂₀ H ₄₁ NO ₂
Batch Molecular Weight:	327.55
Physical Appearance:	Clear oil
Solubility:	DMSO to 30 mM
Storage:	Store at -20°C
Batch Molecular Structure:	



2. ANALYTICAL DATA

HPLC:	Shows 99.4% purity
¹H NMR:	Consistent with structure
Mass Spectrum:	Consistent with structure

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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CAS Number: 119567-63-4

IUPAC Name: (2*S*,3*R*,4*E*)-2-(Dimethylamino)-4-octadecene-1,3-diol

Description:

Competitive sphingosine kinase (SphK) inhibitor. Exhibits inhibitory activity in platelets and in cytosolic extracts from U937, Swiss 3T3 and PC12 cells. Selectively inhibits sphingosine phosphorylation; does not inhibit N-acylation, and displays no inhibitory effect on protein kinase C at concentrations that inhibit SphK. Increases the release of IL-1 β and MCP-1 in cultured astrocytes; thought to mediate mechanical allodynia via this mechanism.

Physical and Chemical Properties:

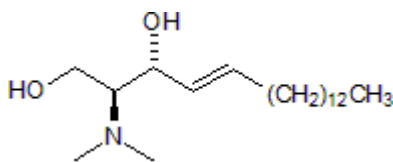
Batch Molecular Formula: C₂₀H₄₁NO₂

Batch Molecular Weight: 327.55

Physical Appearance: Clear oil

Minimum Purity: >98%

Batch Molecular Structure:



References:

Yatomi et al (1996) *N,N*-dimethylsphingosine inhibition of sphingosine kinase and sphingosine 1-phosphate activity in human platelets. *Biochemistry* **35** 626. PMID: 8555236.

Edsall et al (1998) *N,N*-dimethylsphingosine is a potent competitive inhibitor of sphingosine kinase but not of protein kinase C: modulation of cellular levels of sphingosine 1-phosphate and ceramide. *Biochemistry* **37** 12892. PMID: 9737868.

Patti et al (2012) Metabolomics implicates altered sphingolipids in chronic pain of neuropathic origin. *Nat.Chem.Biol.* **8** 232. PMID: 22267119.

Storage: Store at -20°C. This product is packaged under an inert atmosphere.

Solubility & Usage Info:

DMSO to 30 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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