Lipoxamycin hemisulfate

Cat. No.: HY-119759A

CAS No.: 11075-87-9

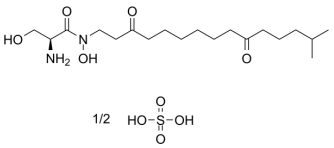
Molecular Formula: $C_{19}H_{36}N_2O_5 \cdot 1/_2H_2O_4S$

Molecular Weight: 421.54

Target: Fungal

Pathway: Anti-infection

Storage: 4°C, sealed storage, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 40 mg/mL (94.89 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.3723 mL	11.8613 mL	23.7225 mL
	5 mM	0.4745 mL	2.3723 mL	4.7445 mL
	10 mM	0.2372 mL	1.1861 mL	2.3723 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 4 mg/mL (9.49 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Lipoxamycin hemisulfate is an antifungal antibiotic and a potent serine palmitoyltransferase inhibitor with an IC_{50} of 21 nM [1][2].

IC_{50} & Target

Serine palmitoyltransferase[1]

In Vitro

Lipoxamycin has antifungal activity against a panel of humanpathogenic fungi with better potency against some of the Candida species (MIC values, 0.25-16 μg/mL). Cryptococcus neoformans is the most sensitive organism, followed by various species of Candida. Other filamentous fungi are sensitive to the Lipoxamycin in disk diffusion assays[1].
Lipoxamycin has a long alkyl chain and an amino-containing polar head group. Lipoxamycin is on the same order of potency as the sphingofungins and also have potent activity against the mammalianenzyme[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Lipoxamycin is highly toxic in mice when applied subeutaneously or topically. Toxicity may be mechanism based, since studies with a Chinese hamster ovary cell mutant have shown that the serine palmitoyltransferase is an essential enzymein

	mammalian cells[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. S M Mandala, et al. Inhibition of Serine Palmitoyl-Transferase Activity by Lipoxamycin. J Antibiot (Tokyo). 1994 Mar;47(3):376-9.

[2]. H A Whaley. The Structure of Lipoxamycin, a Novel Antifungal Antibiotic. J Am Chem Soc. 1971 Jul 28;93(15):3767-9.

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