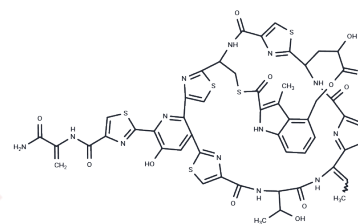


Nosiheptide

Chemical Properties

CAS No. :	56377-79-8
Formula:	C ₅₁ H ₄₃ N ₁₃ O ₁₂ S ₆
Molecular Weight:	1222.36
Appearance:	no data available
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	Nosiheptide (Multhiomycin), a thiopeptide antibiotic synthesized by <i>Streptomyces actuosus</i> , serves as a potent feed additive to promote animal growth. It functions by hindering bacterial protein synthesis and is distinguished by an indole side ring system and regiospecific hydroxyl groups on its macrocyclic core.
Targets(IC ₅₀)	Antibacterial, Antibiotic
In vitro	Nosiheptide demonstrates non-toxic behavior towards mammalian cells at concentrations greater than 100 times the minimum inhibitory concentration (MIC) and retains its effectiveness against <i>Staphylococcus aureus</i> in the presence of 20% human serum. It is particularly potent against <i>Enterococcus</i> spp., the hypervirulent BI strain of <i>Clostridium difficile</i> , and displays remarkable activity against all tested strains of <i>Staphylococcus aureus</i> , including those resistant to multiple drugs (MIC values ≤ 0.25 mg/L). Additionally, Nosiheptide exhibits a significantly extended post-antibiotic effect against both healthcare- and community-associated <i>Staphylococcus aureus</i> when compared to vancomycin. Through time-kill studies, Nosiheptide has been found to quickly eliminate <i>Staphylococcus aureus</i> in a concentration- and time-dependent manner, achieving a near 2-log reduction at 6 hours with a concentration 10 times the MIC [1].
In vivo	Nosiheptide (20 mg/kg; intraperitoneal injection; injected at 1 and 8 h post-infection; female CD1 mice) offers obviously protection against mortality. Ten out of 10 of the Nosiheptide-treated mice remain alive on day 3, while 6/10 of the controls died on day 1 [1].

Solubility Information

Solubility	DMSO: 125 mg/mL (102.26 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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A DRUG SCREENING EXPERT

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.8181 mL	4.0904 mL	8.1809 mL
5 mM	0.1636 mL	0.8181 mL	1.6362 mL
10 mM	0.0818 mL	0.409 mL	0.8181 mL
50 mM	0.0164 mL	0.0818 mL	0.1636 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Yu X, Zhu R, Geng Z, et al. Nosiheptide Harbors Potent In Vitro and Intracellular Inhibitory Activities against Mycobacterium tuberculosis. Microbiology Spectrum. 2022: e01444-22.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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