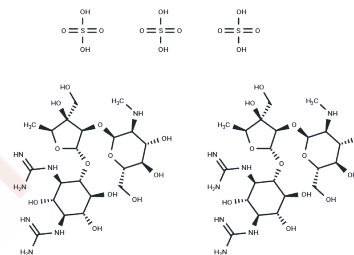


Dihydrostreptomycin sulfate

Chemical Properties

CAS No. :	5490-27-7
Formula:	C ₂₁ H ₄₁ N ₇ O ₁₂ ·1.5H ₂ SO ₄
Molecular Weight:	730.71
Storage:	Store at low temperature Powder: -20°C for 3 years In solvent: -80°C for 1 year <i>Actual storage temperature shall be subject to the COA.</i>



Biological Description

Description	Dihydrostreptomycin sulfate (Dihydrostreptomycin sesquisulfate) inhibits protein synthesis by binding to the 30S ribosomal subunit. Dihydrostreptomycin Sulfate is a semi-synthetic aminoglycoside antibiotic with bactericidal properties. This antibiotic is active against most gram-positive and gram-negative organisms and is used in the treatment of tuberculosis and tularemia.
Targets(IC50)	Antibacterial, Antibiotic
In vitro	The primary mechanism of action of the antibiotic dihydrostreptomycin is binding to and modifying the function of the bacterial ribosome, thus leading to decreased and aberrant translation of proteins. It enters bacterial cells by binding to a specific site on MscL (mechanosensitive channel of large conductance) and modifying its conformation, thus allowing the passage of K ⁺ and glutamate out of, and dihydrostreptomycin into, the cell[1].
In vivo	Dihydrostreptomycin sulfate would cause cochlea damage in mouse model and cell proliferation in the spiral ligament may occur after the dihydrostreptomycin sulfate - induced damage. This process is probably related to the recovery of cochlear function [2].
Kinase Assay	Briefly, the peptide substrate N-acetyl-Asp-Glu-Val-Asp-p-nitroanilide (Ac-DEVD-pNA) is added to the cell lysates in assay buffer (50 mM HEPES, pH 7.4, 100 mM NaCl, 0.1% CHAPS, 10 mM dithiothreitol, 1 mM EDTA, 10% glycerol) and incubated at 37°C. The cleavage of the substrate is monitored at 405 nm.

Solubility Information

Solubility	H ₂ O: 10 mM, Sonication is recommended. DMSO: Insoluble, (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.3685 mL	6.8427 mL	13.6853 mL
5 mM	0.2737 mL	1.3685 mL	2.7371 mL
10 mM	0.1369 mL	0.6843 mL	1.3685 mL
50 mM	0.0274 mL	0.1369 mL	0.2737 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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Kimitsuki T, et al. Brain Res. 1993, 624(1-2):143-150.

Yamashita H, et al. Acta Otolaryngol. 1999, 119(3):322-325.

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