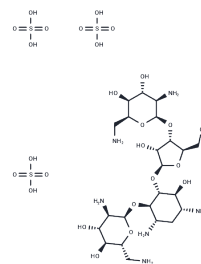


Neomycin sulfate

Chemical Properties

CAS No. :	1405-10-3
Formula:	C ₂₃ H ₄₆ N ₆ O ₁₃ ·3H ₂ SO ₄
Molecular Weight:	908.87
Appearance:	no data available
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	Neomycin sulfate (Framycin sulfate) is a broad-spectrum aminoglycoside antibiotic that blocks the synthesis of bacterial proteins in order to exert antimicrobial activity. Neomycin sulfate is commonly used to screen prokaryotic and eukaryotic cells for Neo resistance genes.
Targets(IC50)	ribosome,Antibacterial,Antibiotic,Phospholipase
In vitro	<p>METHODS: BHK-21 cells, VERO cells and FEA cells were treated with Neomycin sulfate (1000-20000 µg/mL) for 24 h. Cell viability was measured by MTT.</p> <p>RESULTS: The viability of BHK-21 cells was significantly reduced by 9000-20000 µg/mL Neomycin treatment. 3000 µg/mL Neomycin treatment significantly reduced the viability of FEA cells. 20000 µg/mL Neomycin treatment did not affect the viability of VERO cells. [1]</p> <p>METHODS: Mouse cochlear hair cells HEI-OC-1 were treated with Neomycin sulfate (2 mM) for 24 h. Apoptosis was detected by Flow Cytometry.</p> <p>RESULTS: 20 µM GM1 significantly reduced Neomycin sulfate-induced cell death in HEI-OC-1 cells. [2]</p>
In vivo	<p>METHODS: To assay in vivo activity, Neomycin sulfate (20 mg/mouse) and bacitracin (20 mg/mouse) were administered by gavage to C57BL/10 mice once daily for seven days.</p> <p>RESULTS: The combination of Neomycin and bacitracin decreased intestinal permeability and increased gene expression of ZO-1, JAM-A, and occludin in the ileum and ZO-1, claudin-3, and claudin-4 in the colon. [3]</p> <p>METHODS: To deplete the intestinal microbiota of mice, the antibiotics (ABX) vancomycin (0.5 g/L), ampicillin (1 g/L), Neomycin sulfate (1 g/L), and metronidazole (1 g/L) were administered to mice by drinking water for two weeks.</p> <p>RESULTS: Antibiotics significantly reduced the diversity and composition of the gut microbiota. [4]</p>

Solubility Information

Solubility	DMSO: Insoluble, PBS: 100 mg/mL (110.03 mM) H ₂ O: 200 mg/mL (220.05 mM) (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.1003 mL	5.5013 mL	11.0027 mL
5 mM	0.2201 mL	1.1003 mL	2.2005 mL
10 mM	0.110 mL	0.5501 mL	1.1003 mL
50 mM	0.022 mL	0.110 mL	0.2201 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

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