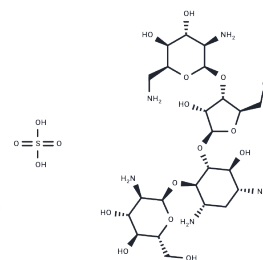


Paromomycin Sulfate

Chemical Properties

CAS No. :	1263-89-4
Formula:	C ₂₃ H ₄₇ N ₅ O ₁₈ S
Molecular Weight:	713.71
Appearance:	no data available
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	Paromomycin binds specifically to the RNA oligonucleotide at the A site of bacterial 30S ribosomes, thereby causing misreading and premature termination of translation of mRNA and inhibition of protein synthesis followed by cell death. Paromomycin Sulfate (Aminosidine sulfate) is the sulfate salt form of paromomycin, a structural derivative of neomycin, an aminoglycoside antibiotic with amebicidal and bactericidal effects against predominantly aerobic gram-negative bacteria.
Targets(IC50)	Antibacterial,Antibiotic,Parasite
In vitro	In both clinical cases and experimental models of cutaneous leishmaniasis (CL), lesions caused by <i>L. major</i> show a faster and more complete recovery when treated with paromomycin ointment as compared to those caused by <i>L. panamensis</i> and <i>L. amazonensis</i> .
In vivo	Paromomycin, an aminoglycoside antibiotic, exhibits robust antimicrobial activity against a broad spectrum of Gram-positive bacteria, Gram-negative bacteria, some protozoa, and tapeworms. In vitro analysis of amastigote sensitivity within a mouse macrophage model indicated that <i>L. tropica</i> and the <i>L. major</i> strains (ED50s: 1~5 µM) are more sensitive to Paromomycin than <i>L. mexicana</i> (ED50: 39 µM) and <i>L. braziliensis</i> (ED50: 12 µM). The <i>L. donovani</i> strain demonstrates moderate sensitivity (ED50: 6~18 µM), with the exception of the Indian strain, DD8, exhibiting significantly reduced susceptibility (ED50 >150 µM).
Kinase Assay	Concentration-response and kinetic studies: The microsomal protein (30 µg), [1β-3H] androstenedione (6.6 × 10 ⁵ dpm) and NADPH (270 µM) are used for the concentration-response experiment with an incubation time of 20 minutes. The Aminogluthetimide is initially tested at 10 µM and 100 µM concentrations, followed by a full concentration-response study with at least 8 concentrations ranging from 0.01 µM to 160 µM. For the initial velocity study the concentration of [1β-3H]androstenedione is varied from 7.5 to 100 nM and the incubation time is set to 5 minutes. The tritiated water formed during the conversion of the tritiated substrate, [1β-3H]androstenedione, to estrone is quantified by liquid scintillation counting. Each assay is performed three times in duplicate and the results are treated by nonlinear regression analysis allowing the determination of the half-maximal inhibitory concentration (IC ₅₀).

Solubility Information

A DRUG SCREENING EXPERT

Solubility	H2O: 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	1.4011 mL	7.0056 mL	14.0113 mL
5 mM	0.2802 mL	1.4011 mL	2.8023 mL
10 mM	0.1401 mL	0.7006 mL	1.4011 mL
50 mM	0.028 mL	0.1401 mL	0.2802 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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Sun Y, Wu J, Shen B, et al. Discovery of TRPV4-Targeting Small Molecules with Anti-Influenza Effects Through Machine Learning and Experimental Validation. International Journal of Molecular Sciences. 2025, 26(3): 1381.

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Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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