Paromomycin sulfate

Cat. No.: HY-B0956

CAS No.: 1263-89-4

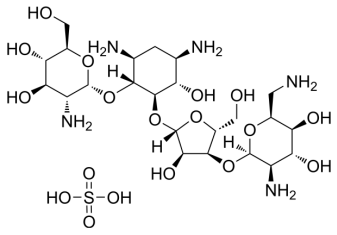
Molecular Formula: $C_{23}H_{47}N_5O_{18}S$

Molecular Weight: 713.71

Target: Parasite; Antibiotic; Bacterial

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

H_2O : 100 mg/mL (140.11 mM; ultrasonic and warming and heat to 80°C)
DMSO : < 1 mg/mL (insoluble or slightly soluble)
Ethanol : < 1 mg/mL (insoluble)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	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

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

In Vivo

1. Add each solvent one by one: PBS
Solubility: 100 mg/mL (140.11 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Paromomycin (Aminosidine) sulfate, a neomycin (HY-B0470) derivative, is a broad spectrum aminoglycoside antibiotic with amebicidal and bactericidal effects. Paromomycin sulfate prematures termination of translation of mRNA and inhibits protein synthesis by specifically binds to the RNA oligonucleotide at the A site of bacterial 30S ribosomes. Paromomycin sulfate can be used for the research of bacterial and parasitic infections[1][2][3].

IC_{50} & Target		
	Aminoglycoside	Amebae

In Vitro

Paromomycin sulfate (500 μg/ml) reduces intracellular parasitic forms by 97.2% compared to control in Caco-2 cells and reduces the percentage of intracellular C. parvum forms by 99.5% in HCT-8 cells[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Paromomycin sulfate (oral gavage; 50 mg/kg-200 mg/kg; once daily; for five consecutive days two weeks post infection)

reduces the number of oocyst per gram of feces and intestine. It shows minimal focal inflammation in only 20% of the sections at 50 mg/kg from the intestines of mice infected with C. parvum and only 10% of focal inflammation at 200 mg/kg[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Swiss albino mice[1]
Dosage:	50 mg/kg-200 mg/kg
Administration:	Oral gavage; 50 mg/kg-200 mg/kg; once daily; for five consecutive days two weeks post infection
Result:	Was against cryptosporidiosis in vivo.

CUSTOMER VALIDATION

- Acta Trop. 2019 Sep;197:105045.

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REFERENCES

[1]. Tony J Tavares, et al. Structure of the cytosine-cytosine mismatch in the thymidylate synthase mRNA binding site and analysis of its interaction with the aminoglycoside paromomycin. RNA. 2009 May;15(5):911-22.

[2]. Mohamed Mammeri, et al. Efficacy of chitosan, a natural polysaccharide, against Cryptosporidium parvum in vitro and in vivo in neonatal mice. Exp Parasitol. 2018 Nov;194:1-8.

[3]. Ibrahim Aly, et al. Efficacy of Low and High Dose of Paromomycin Sulfate for Treatment of Cryptosporidiosis in Immunosuppressed Infected-Mice.Global Veterinaria 15 (2): 137-143, 2015

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