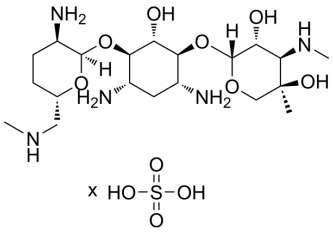
Micronomicin sulfate

Cat. No.:	HY-108307
CAS No.:	66803-19-8
Molecular Formula:	$C_{20}H_{41}N_5O_7.xH_2SO_4$
Target:	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 : 50 mg/mL (Need ultrasonic)
In Vivo	1. Add each solvent one by one: PBS Solubility: 100 mg/mL (Infinity mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description	Micronomicin sulfate (Gentamicin C2b sulfate) is an aminoglycoside antibiotic isolated from Micromonospora. Micronomicin sulfate is a broad-spectrum antibiotic close to the gentamicin-type antibiotics, exhibits a high activity against Pseudomonas , Proteus, Klebsiella pneumoniae, Serratia, etc (MIC=0.001-8.3 μg/ml)[1][2].
IC_{50} & Target	Aminoglycoside
In Vitro	Micronomicin has a potent antibacterial activity, it is active against Staphylococcus aureus FDA 209 P, Staphylococcus aureus with the minimal inhibitory values of 0.01 μg/ml. It is also against Escherichia coli St.M. 589, Baker 2, F 14-BK, and R5/W677 with the minimal inhibitory values of 0.75 μg/ml, 0.3 μg/ml, 0.03 μg/ml and 0.03 μg/ml. And it is active against Pseudomonas aeruginosa strains and lebsiella pneumoniae strains (MICs = 0.03-17.5 μg/ml)[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Micronomicin sulfate is highly active against various bacterial infections in mice, and has an intravenous acute LD_{50} in mice of 93 mg/kg[1]. Micronomicin sulfate (intravenous injection; 4-100 mg/kg; 30 days) is injected for subacute toxicity study. The wistar rats dies at the dose level of 100 mg/kg (10 out of 30 animals): renal disorders and ataxia. The renal histological disorders occurrs mainly at the dose levels of 25 mg/kg and over[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Wistar rats[3]
Dosage:	4, 10, 25, 63 mg/kg and 100 mg/kg

Administration:	Intravenous injection; 30 days
Result:	Led to death of rat at 100 mg/kg.

REFERENCES

[1]. R Okachi,et al. A New Antibiotic XK-62-2 (Sagamicin). I. Isolation, Physicochemical and Antibacterial Properties. J Antibiot (Tokyo)

[2]. P J Daniels, The Gentamicin Antibiotics. 6. Gentamicin C2b, an Aminoglycoside Antibiotic Produced by Micromonospora Purpurea Mutant JI-33. J Antibiot (Tokyo)

[3]. T Hara, et al. Safety Evaluation of Micronomicin V. Subacute Toxicity in Rats After Intravenous Injection. Jpn J Antibiot. 1983 Nov;36(11):3208-25.

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