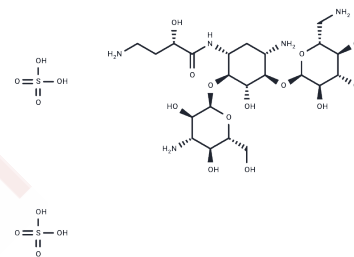


Amikacin disulfate

Chemical Properties

CAS No. :	39831-55-5
Formula:	C ₂₂ H ₄₃ N ₅ O ₁₃ ·2H ₂ O ₄ S
Molecular Weight:	781.76
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



Biological Description

Description	Amikacin disulfate (BAY-416651 sulfate) is a semi-synthetic aminoglycoside antibiotic derived from kanamycin A.
Targets(IC50)	Antibacterial,Antibiotic
In vitro	Amikacin sulfate has high affinities for 16S rRNA of the bacterial 30S ribosome, causing misreading of mRNA and leaving the bacterium unable to synthesize proteins vital to its growth. [1] Amikacin is active in vitro against Pseudomonas species, [2] Escherichia coli [3], Proteus species (indole-positive and indole-negative), Providencia species, Klebsiella-Enterobacter-Serratia species, Acinetobacter (formerly Mima-Herellea) species, and Citrobacter freundii.[4] [5] In vitro studies have shown that amikacin sulfate combined with a beta-lactam antibiotic acts synergistically against many clinically significant Gram-negative organisms. In vitro studies have shown that amikacin sulfate combined with beta-lactam antimicrobial agents including moxalactam or piperacillin acts synergistically against many clinically significant Gram-negative organisms. [6]
In vivo	Amikacin (80 mg/kg i.v.) significantly reduced pseudomonal densities within aortic vegetations compared to controls in the experimental rabbit endocarditis model. In addition, amikacin given once daily is still more effective than the twice-daily regimen. [7] Amikacin given alone at a dose of 50 mg/kg, in one, two, or three divided doses, showed remarkable activity in model of Mycobacterium avium complex infections in beige mice. Addition of clofazimine increased the activity significantly. [8]

Solubility Information

Solubility	H ₂ O: 100 mg/mL (127.92 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	1.2792 mL	6.3958 mL	12.7916 mL
5 mM	0.2558 mL	1.2792 mL	2.5583 mL
10 mM	0.1279 mL	0.6396 mL	1.2792 mL
50 mM	0.0256 mL	0.1279 mL	0.2558 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

- Umezawa H. *Jpn J Antibiot*, 1979, 32 Suppl, S1-S14.
- Kluge RM, et al. *Antimicrob Agents Chemother*, 1974, 6(4), 442-446.
- Price KE, et al. *Antimicrob Agents Chemother*, 1974, 5(2), 143-152.
- Sharp PM, et al. *Antimicrob Agents Chemother*, 1974, 5(5), 435-438.
- Falagas ME, et al. *Expert Rev Anti Infect Ther*, 2012, 10(2), 207-218.

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