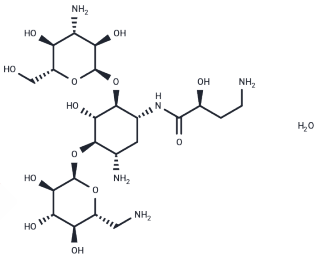
Data Sheet (Cat.No.T6383)

TargetMol

Amikacin hydrate

Chemical Properties



CAS No. : 1257517-67-1

Formula: C22H43N5O13.xH2O

Molecular Weight: 603.623

Storage: Store at low temperature
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 hydrate (BAY 41-6551 hydrate) is an aminoglycoside antibiotic with bacteriostatic activity used in studies of drug-resistant Mycobacterium tuberculosis infections and Gram-negative bacterial infections, and is commonly used in the clinic for urinary tract infections caused by E. coli.
Targets(IC50)	Antibacterial,Antibiotic
In vitro	Amikacin is an aminoglycoside antibiotic used to treat different types of bacterial infections. Amikacin works by binding to the bacterial 30S ribosomal subunit, causing misreading of mRNA and leaving the bacterium unable to synthesize proteins vital to its growth.
In vivo	In male Fischer 344 rats (40-50-day-old), Amikacin hydrate (320 mg/kg; subcutaneous injection; daily; for 10 days) induces hearing loss in rats[3].

Solubility Information

Solubility	DMSO: < 1 mg/mL (insoluble or slightly soluble) H2O: 40.00 mg/mL (66.27 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.6567 mL	8.2834 mL	16.5667 mL
5 mM	0.3313 mL	1.6567 mL	3.3133 mL
10 mM	0.1657 mL	0.8283 mL	1.6567 mL
50 mM	0.0331 mL	0.1657 mL	0.3313 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

Edson, R.S. and C.L. Terrell, The aminoglycosides. Mayo Clin Proc, 1999. 74(5): p. 519-28.
Ristuccia AM, et al. An overview of amikacin. Ther Drug Monit. 1985;7(1):12-25.
Siân R Kitcher, et al. ORC-13661 Protects Sensory Hair Cells From Aminoglycoside and Cisplatin Ototoxicity. JCI Insight. 2019 Aug 8;4(15):e126764.