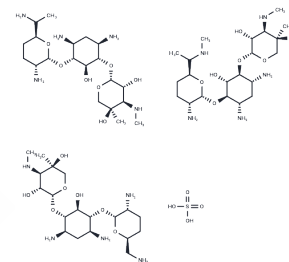


## Gentamicin sulfate

### Chemical Properties

CAS No. :	1405-41-0
Formula:	C <sub>60</sub> H <sub>125</sub> N <sub>15</sub> O <sub>25</sub> S
Molecular Weight:	1488.79
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	Gentamicin sulfate (SCH9724) is a broad-spectrum, orally administered aminoglycoside antibiotic that exhibits inhibitory activity against aerobic Gram-negative bacteria by interfering with mRNA translation.
Targets(IC50)	ribosome,Antibacterial,Antibiotic,DHFR
In vitro	<b>METHODS:</b> Fibroblasts, MDCK and LLC-PK1 cells were treated with Gentamicin sulfate (0-3 mM) for 4 days and apoptosis was detected by TUNEL assay. <b>RESULTS:</b> The incidence of apoptosis was increased in all 3 cell lines, correlating almost directly with the extracellular concentration of Gentamicin sulfate and the incubation time, reaching 20-30% of all cells. [1]
In vivo	Gentamicin is the first choice aminoglycoside for the treatment of serious infections at present, with alternatives being amikacin, netilmicin, and tobramycin. Gentamicin preparations are commercially available in three forms, namely otic, ophthalmic, and topical based on the respective function to treat infections of ear canal, eye, and skin. Oral and injectable forms of gentamicin are found to exhibit effective antibacterial activity against Yersinia pestis as demonstrated in a mouse infection model[4]. Treatment with up to nine doses of methicillin or gentamicin shows an obvious reduction of bacteria on the foreign body[5].

### Solubility Information

Solubility	DMSO: Insoluble, H <sub>2</sub> O: 255.00 mg/mL (171.28 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
------------	--

### Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.6717 mL	3.3584 mL	6.7169 mL
5 mM	0.1343 mL	0.6717 mL	1.3434 mL
10 mM	0.0672 mL	0.3358 mL	0.6717 mL
50 mM	0.0134 mL	0.0672 mL	0.1343 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

El Mouedden M, et al. Gentamicin-induced apoptosis in renal cell lines and embryonic rat fibroblasts. *Toxicol Sci.* 2000 Jul;56(1):229-39.

Chen M, Xiong H R, Hu Y, et al. Electroacupuncture alleviates sciatic nerve injury and inhibits autophagy in rats. *Acupuncture in Medicine.* 2024: 09645284241280074.

Ma X, Li H, Ji J, et al. Overexpression of outer membrane protein A (OmpA) increases aminoglycoside sensitivity in mycobacteria. *BMC microbiology.* 2024, 24(1): 472.

LeBrun M, et al. Effectiveness and toxicity of gentamicin in an experimental model of pyelonephritis: effect of the time of administration. *Antimicrob Agents Chemother.* 1999 May;43(5):1020-6.

Montenez JP, et al. *Toxicol Lett.* 1994 Sep;73(3):201-8.

Kumar CG, et al. Microbial biosynthesis and applications of gentamicin: a critical appraisal.

Espersen F, et al. Effect of treatment with methicillin and gentamicin in a new experimental mouse model of foreignbody infection. *Antimicrob Agents Chemother.* 1994 Sep;38(9):2047-53.

Xu W, et al. A rapid and sensitive method for kinetic study and activity assay of DNase I in vitro based on a GO-quenched hairpin probe. *Anal Bioanal Chem.* 2016 May;408(14):3801-9.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel: 781-999-4286 E\_mail: info@targetmol.com Address: 34 Washington Street, Wellesley Hills, MA 02481