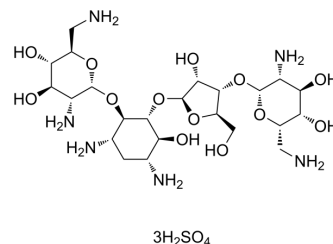


## Neomycin sulfate

<b>Cat. No.:</b>	HY-B0470
<b>CAS No.:</b>	1405-10-3
<b>Molecular Formula:</b>	C <sub>23</sub> H <sub>52</sub> N <sub>6</sub> O <sub>25</sub> S <sub>3</sub>
<b>Molecular Weight:</b>	908.88
<b>Target:</b>	Bacterial; Antibiotic; Phospholipase
<b>Pathway:</b>	Anti-infection; Metabolic Enzyme/Protease
<b>Storage:</b>	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	H <sub>2</sub> O : 250 mg/mL (275.06 mM; Need ultrasonic)					
	DMSO : < 1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble or slightly soluble)					
	<b>Preparing Stock Solutions</b>	<b>Solvent</b>	<b>Mass</b>	<b>1 mg</b>	<b>5 mg</b>	<b>10 mg</b>
		<b>Concentration</b>				
		<b>1 mM</b>		1.1003 mL	5.5013 mL	11.0026 mL
<b>5 mM</b>			0.2201 mL	1.1003 mL	2.2005 mL	
	<b>10 mM</b>		0.1100 mL	0.5501 mL	1.1003 mL	
Please refer to the solubility information to select the appropriate solvent.						
<b>In Vivo</b>	1. Add each solvent one by one: PBS Solubility: 50 mg/mL (55.01 mM); Clear solution; Need ultrasonic					

### BIOLOGICAL ACTIVITY

<b>Description</b>	Neomycin sulfate, an aminoglycoside antibiotic, exerts antibacterial activity through irreversible binding of the nuclear 30S ribosomal subunit, thereby blocking bacterial protein synthesis. Neomycin sulfate is a known phospholipase C (PLC) inhibitor. Neomycin sulfate potently inhibits both nuclear translocation of angiogenin and angiogenin-induced cell proliferation and angiogenesis <sup>[1][2]</sup> .
<b>IC<sub>50</sub> &amp; Target</b>	Aminoglycoside
<b>In Vitro</b>	Neomycin is effective against most gram-negative organisms except <i>Pseudomonas aeruginosa</i> and anaerobic bacteria. Its activity against gram-positive microorganisms is more or less limited to staphylococci, but bacterial resistance supervenes after prolonged use <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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## CUSTOMER VALIDATION

- Cell Metab. 2023 Sep 29;S1550-4131(23)00340-6.
- Brain Behav Immun. 2020 Nov 24;S0889-1591(20)32408-9.
- Sci Adv. 2023 Feb 17;9(7):eade4770.
- Emerg Microbes Infect. 2022 Feb 22;1-34.
- Gut Microbes. 2023 Dec;15(2):2282790.

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## REFERENCES

[1]. Sasseville D. Neomycin. Dermatitis. 2010;21(1):3-7.

[2]. Hu GF. Neomycin inhibits angiogenin-induced angiogenesis. Proc Natl Acad Sci U S A. 1998;95(17):9791-9795.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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