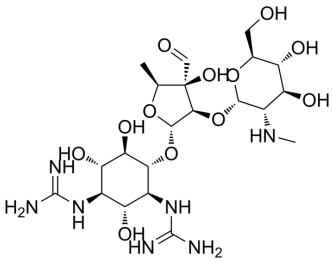
Streptomycin

Cat. No.:	HY-B1906
CAS No.:	57-92-1
Molecular Formula:	$C_{21}H_{39}N_7O_{12}$
Molecular Weight:	581.57
Target:	Antibiotic; Bacterial
Pathway:	Anti-infection
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

H_2O : 125 mg/mL (214.94 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.7195 mL	8.5974 mL	17.1948 mL
	5 mM	0.3439 mL	1.7195 mL	3.4390 mL
	10 mM	0.1719 mL	0.8597 mL	1.7195 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Streptomycin (Agrept) is an effective antibiotic against M. tuberculosis, is used for the research of tuberculosis (TB). Streptomycin also is a bacteriocidal agent that can be used for the research of a number of bacterial infections. Streptomycin can bind strongly to nucleic acids, interferes and blocks protein synthesis while permitting continued RNA and DNA synthesis. Streptomycin, as a common antibiotic used in culture media, also is a blocker of stretch-activated and mechanosensitive ion channels in neurons and cardiac myocytes [1][2][3].

IC_{50} & Target

Aminoglycoside

In Vitro

Streptomycin is a potent inhibitor of the hypotonicity-induced Ca^{2+}entry and $Cl^{?}$ channel activity[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cell Rep Med. 2023 Dec 19;4(12):101340.
- Autophagy. 2021 Jul 20;1-19.
- Genome Biol. 2023 Apr 30;24(1):98.
- Food Chem. 2022 Sep 26;403:134399.
- Free Radic Biol Med. 2023 Apr 10;S0891-5849(23)00373-8.

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REFERENCES

[1]. J DAVIES, et al. STREPTOMYCIN, SUPPRESSION, AND THE CODE. Proc Natl Acad Sci U S A. 1964 May;51(5):883-90.

[2]. Deisy M G C Rocha, et al. The Neglected Contribution of Streptomycin to the Tuberculosis Drug Resistance Problem. Genes (Basel). 2021 Dec 17;12(12):2003.

[3]. Mandeep Singh, et al. Streptomycin sulphate loaded solid lipid nanoparticles show enhanced uptake in macrophage, lower MIC in Mycobacterium and improved oral bioavailability. Eur J Pharm Biopharm. 2021 Mar;160:100-124.

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