

Sarecycline hydrochloride

Chemical Properties

CAS No. : 1035979-44-2

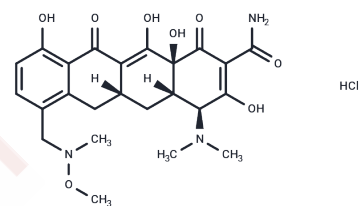
Formula: C₂₄H₃₀ClN₃O₈

Molecular Weight: 523.96

Store at low temperature

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	Sarecycline hydrochloride (Sarecycline HCl) is an orally active narrow-spectrum tetracycline antibiotic with antimicrobial and anti-inflammatory activity, inhibits <i>Acinetobacter</i> and <i>Candida tropicalis</i> , and can be used to treat inflammatory acne.
Targets(IC50)	Antibacterial, Antibiotic, DNA/RNA Synthesis
In vitro	METHODS: To evaluate the antibacterial activity of Sarecycline hydrochloride and its comparator against <i>Cutibacterium acnes</i> , Sarecycline hydrochloride was applied to 55 clinical isolates of <i>Cutibacterium acnes</i> . RESULTS: The MIC values of Sarecycline hydrochloride ranged from 0.5 to 16 µg/ml and it displayed activity against macrolide-resistant strains [1].
In vivo	METHODS: To determine the in vivo efficacy of Sarecycline hydrochloride against <i>Staphylococcus aureus</i> RN450-1 and <i>Escherichia coli</i> PBS1478, a murine model of systemic (intraperitoneal) infection was utilized. RESULTS: Sarecycline hydrochloride effectively treated systemic infections caused by <i>Staphylococcus aureus</i> , with a protective dose at 50% (PD50) value of 0.25 mg/kg[1].

Solubility Information

Solubility	H ₂ O: 5.26 mg/mL (10.04 mM), Sonication is recommended. DMSO: 80 mg/mL (152.68 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.9085 mL	9.5427 mL	19.0854 mL
5 mM	0.3817 mL	1.9085 mL	3.8171 mL
10 mM	0.1909 mL	0.9543 mL	1.9085 mL
50 mM	0.0382 mL	0.1909 mL	0.3817 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

Zhanel G, et al. Microbiological Profile of Sarecycline, a Novel Targeted Spectrum Tetracycline for the Treatment of Acne Vulgaris. *Antimicrob Agents Chemother.* 2018;63(1):e01297-18. Published 2018 Dec 21.

Moore AY, et al. Sarecycline: a narrow spectrum tetracycline for the treatment of moderate-to-severe acne vulgaris. *Future Microbiol.* 2019;14(14):1235-1242.

Batool Z, et al. Sarecycline interferes with tRNA accommodation and tethers mRNA to the 70S ribosome. *Proc Natl Acad Sci U S A.* 2020;117(34):20530-20537.

Butler MS, et al. Antibiotics in the clinical pipeline in 2013. *J Antibiot (Tokyo).* 2013 Oct;66(10):571-91.

Moore AY, et al. Sarecycline: a narrow spectrum tetracycline for the treatment of moderate-to-severe acne vulgaris. *Future Microbiol.* 2019 Sep;14(14):1235-1242.

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