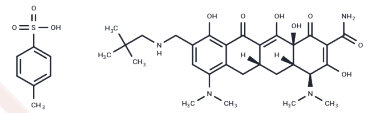
Data Sheet (Cat.No.T20753)

TargetMol

Omadacycline tosylate

Chemical Properties



CAS No. : 1075240-43-5

Formula: C36H48N4O10S

Molecular Weight: 728.85

Storage: Keep away from moisture,Keep away from direct sunlight
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	Omadacycline tosylate (PTK 0796 tosylate) is an orally administered aminocyclitol antibacterial agent and tetracycline antibiotic exhibiting broad-spectrum antimicrobial activity against Gram-positive, Gram-negative, anaerobic, and atypical pathogens. Omadacycline tosylate binds to the 30S ribosomal subunit of bacteria to inhibit protein synthesis and may be employed in studies of pneumonia and cutaneous infections.
Targets(IC50)	ribosome,Antibacterial,Antibiotic
In vitro	The 90% minimum inhibitory concentrations (MIC_{90}) of omadacycline tosylate against methicillin-resistant Staphylococcus aureus (MRSA), vancomycin-resistant Enterococcus (VRE), and beta-hemolytic streptococci are 1.0 μg/ml, 0.25 μg/ml, and 0.5 μg/ml, respectively; its MIC_{90} against penicillin-resistant Streptococcus pneumoniae (PRSP) and Haemophilus influenzae (H. influenzae) are 0.25 μg/ml and 2.0 μg/ml, respectively [2]. Omadacycline tosylate (10 μM, equivalent to 5.57 μg/ml) inhibits the ligand-binding activity of the M2 subtype of muscarinic acetylcholine receptors (M2 receptors) by 82%. At the same time, it exerts no substantial effect on the M3 subtype of muscarinic receptors (M3 receptors) or nicotinic acetylcholine receptors [5].
In vivo	In the mouse abdominal infection model, a single intravenous injection of Omadacycline tosylate (0.11-18 mg/kg) demonstrated therapeutic effects against Streptococcus pneumoniae, Escherichia coli, and Staphylococcus vitis vinifera. The 50% effective dose (ED_{50}) for Streptococcus pneumoniae ranged from 0.45 mg/kg to 3.39 mg/kg, while the ED_{50} for Staphylococcus vitis vinifera ranged from 0.30 mg/kg to 1.74 mg/kg. The ED_{50} for Escherichia coli was 2.02 mg/kg[2].

Solubility Information

Solubility	H2O: 10 mg/mL (13.72 mM),Sonication is recommended. DMSO: Soluble, (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.372 mL	6.8601 mL	13.7202 mL
5 mM	0.2744 mL	1.372 mL	2.744 mL
10 mM	0.1372 mL	0.686 mL	1.372 mL
50 mM	0.0274 mL	0.1372 mL	0.2744 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

Durães F, et, al. Omadacycline: A Newly Approved Antibacterial from the Class of Tetracyclines. Pharmaceuticals (Basel). 2019 Apr 21;12(2):63.
Macone AB, et, al. In vitro and in vivo antibacterial activities of omadacycline, a novel aminomethylcycline. Antimicrob Agents Chemother. 2014;58(2):1127-35.
Zhanel GG, et, al. Omadacycline: A Novel Oral and Intravenous Aminomethylcycline Antibiotic Agent. Drugs. 2020 Feb;80(3):285-313.
Markham A, et, al. Omadacycline: First Global Approval. Drugs. 2018 Dec;78(18):1931-1937.
Tanaka SK, et al. In Vitro and In Vivo Assessments of Cardiovascular Effects with Omadacycline. Antimicrob Agents Chemother. 2016 Aug 22;60(9):5247-53.