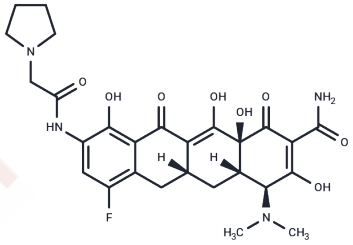
Data Sheet (Cat.No.T11227)

TargetMol

Eravacycline

Chemical Properties



CAS No. : 1207283-85-9

Formula: C27H31FN4O8

Molecular Weight: 558.56

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	Eravacycline (TP-434) is a potent and broad-spectrum antibacterial agent.
Targets(IC50)	Antibacterial,Antibiotic
In vitro	Eravacycline dihydrochloride is a synthetic antibiotic that inhibits bacterial protein synthesis by binding to the 30S ribosomal subunit. It exhibits broad-spectrum activity against gram-negative bacteria, excluding P. aeruginosa, and demonstrates exceptional efficacy against major gram-positive pathogens, including methicillin-resistant S. aureus. Eravacycline also shows potent inhibition of the ribosome. It is effective against 90% of bacterial isolates (MIC90) across various species panels at concentrations from ≤0.008 to 2 μg/mL, except for Pseudomonas aeruginosa and Burkholderia cenocepacia, which have MIC90 values of 32 μg/mL for both. The compound is active against multidrug-resistant organisms, even those exhibiting extended-spectrum β-lactamases and resistance to carbapenems. Notably, eravacycline is a potent agent against A. baumannii, even against strains resistant to sulbactam, imipenem/meropenem, levofloxacin, and amikacin/tobramycin. It outperforms comparative antibiotics from the tetracycline class, levofloxacin, amikacin, tobramycin, and colistin, with MIC50/90 values of 0.5/1 mg/L. Moreover, it inhibits six E. coli strains with MICs ranging from 0.125 to 0.25 mg/L[1].
In vivo	Mice received eravacycline doses escalating twofold (3.125 to 50 mg/kg) bi-daily. The average fAUC/MIC values indicating net stasis and a 1-log kill were 27.97±8.29 and 32.60±10.85, respectively[2]. Eravacycline showed effectiveness in various murine infection models targeting significant Gram-positive and Gram-negative bacteria. In septicemia models using mice, eravacycline achieved a 50% protective dose at ≤1 mg/kg daily against S. aureus, including methicillin-resistant S. aureus (MRSA) and tetracycline-resistant strains, and S. pyogenes. The PD50 for E. coli ranged from 1.2 to 4.4 mg/kg daily[5].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.7903 mL	8.9516 mL	17.9032 mL
5 mM	0.3581 mL	1.7903 mL	3.5806 mL
10 mM	0.179 mL	0.8952 mL	1.7903 mL
50 mM	0.0358 mL	0.179 mL	0.3581 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

Seifert H, et al. In-vitro activity of the novel fluorocycline eravacycline against carbapenem non-susceptible Acinetobacter baumannii. Int J Antimicrob Agents. 2017 Jul 10.
Zhao M, et al. In Vivo Pharmacodynamic Target Assessment of Eravacycline against Escherichia coli in a Murine Thigh Infection Model. Antimicrob Agents Chemother. 2017 Jun 27;61(7).
Xiao XY, et al. Fluorocyclines. 1. 7-fluoro-9-pyrrolidinoacetamido-6-demethyl-6-deoxytetracycline: a potent, broad spectrum antibacterial agent. J Med Chem. 2012 Jan 26;55(2):597-605.
Sutcliffe JA, et al. Antibacterial activity of eravacycline (TP-434), a novel fluorocycline, against hospital and community pathogens. Antimicrob Agents Chemother. 2013 Nov;57(11):5548-58.
Grossman TH, et al. Eravacycline (TP-434) is efficacious in animal models of infection. Antimicrob Agents Chemother. 2015 May;59(5):2567-71.