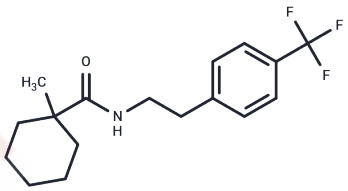
Data Sheet (Cat.No.T212840)

TargetMol

MSU-44147

Chemical Properties



CAS No. : 3105177-29-2

Formula: C17H22F3NO

Molecular Weight: 313.36

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	MSU-44147 is a small-molecule inhibitor that targets the membrane transport protein MmpL3 in Mycobacterium abscessus. MSU-44147 exhibits selective anti-mycobacterial activity and low cytotoxicity toward eukaryotic cells. By inhibiting MmpL3-mediated lipid transport, MSU-44147 disrupts cell wall synthesis and biofilm formation, and exhibits bactericidal activity against intracellular bacteria; simultaneously, it produces additive or synergistic effects when used in combination with various antibiotics.
Targets(IC50)	Antibacterial
In vitro	MSU-44147 (80 μM-0.08 nM; 3 days) potently inhibits the growth of Mycobacterium abscessus ATCC 19977 in vitro and exhibits time-dependent bactericidal activity at a concentration of 5× MIC; simultaneously, it potently inhibits Mycobacterium tuberculosis strains, Mycobacterium abscessus, and Mycobacterium chancroidi; it exhibits no activity against nontuberculous mycobacteria at concentrations up to 80 μM; and it demonstrates variable antibacterial activity against clinically isolated multidrug-resistant Mycobacterium abscessus strains. MSU-44147 (0.18 nM-160 μM; 3 d) disrupts mature Mycobacterium abscessus biofilms, with an EC_{50} of 1.96 μM; it also reduces bacterial viability within biofilms, with a corresponding EC_{50} of 0.18 μM. MSU-44147 (1-160 μM; 3 d) does not kill non-replicating, starved Mycobacterium abscessus ATCC 19977 at concentrations up to 160 μM [1].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.1912 mL	15.9561 mL	31.9122 mL
5 mM	0.6382 mL	3.1912 mL	6.3824 mL
10 mM	0.3191 mL	1.5956 mL	3.1912 mL
50 mM	0.0638 mL	0.3191 mL	0.6382 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

Abdalla BJ, et al. Defining the Mechanism of Action and Resistance of New Mycobacterium abscessus MmpL3 Inhibitors. ACS Chem Biol. 2026 Feb 20;21(2):284-301.