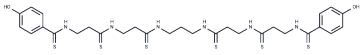
Data Sheet (Cat.No.T10838)

TargetMol

Closthioamide

Chemical Properties



CAS No. : 1227367-59-0

Formula: C29H38N6O2S6

Molecular Weight: 695.04

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	Closthioamide is a potent inhibitor of bacterial DNA gyrase and is highly effective against MRSA, Ec, VRE, and Mv [MICs: 0.58 μM, 9.00 μM, 0.58 μM, and 72.03 μM, respectively].
Targets(IC50)	Antibacterial
In vitro	Closthioamide is isolated from the strictly anaerobic bacterium Clostridium cellulolyticum, and belongs to a new class of natural products [1]. Closthioamide is highly active against a pathogenic, methicillin-resistant Staphylococcus aureus (MRSA) strain with a minimum inhibitory concentration (MIC) of 0.4 μg/mL-1 (0.58 μM). Closthioamide is even active against vancomycin-resistant Enterococcus faecalis (VRE) with the same low MIC value and is thus significantly more potent against these bacteria than ciprofloxacin, the standard drug used against VRE, with remarkable strain selectivity. Closthioamide shows moderate antiproliferative and cytotoxic effects [2].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.4388 mL	7.1938 mL	14.3877 mL
5 mM	0.2878 mL	1.4388 mL	2.8775 mL
10 mM	0.1439 mL	0.7194 mL	1.4388 mL
50 mM	0.0288 mL	0.1439 mL	0.2878 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

Chiriac AI, et al. Mode of action of closthioamide: the first member of the polythioamide class of bacterial DNA gyrase inhibitors. J AntimicrobChemother. 2015Sep;70(9):2576-88.
Lincke T, et al. Closthioamide: an unprecedented polythioamide antibiotic from the strictly anaerobic bacterium Clostridium cellulolyticum.Angew Chem Int Ed Engl. 2010 Mar 8;49(11):2011-3.