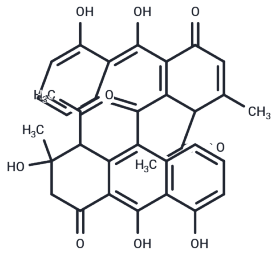
Data Sheet (Cat.No.T26189)

TargetMol

Setomimycin

Chemical Properties



CAS No. : 69431-87-4

Formula: C34H28O9

Molecular Weight: 580.59

Storage: Store at low temperature
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	Setomimycin is a potent antibiotic compound that inhibits the SARS-CoV-2 main protease (Mpro) with an IC50 value of 12.02 μM, and also exhibits anti-inflammatory, antioxidant, antiproliferative, and antitumor activities, enabling multidisciplinary research spanning antiviral drug discovery, inflammation biology, and cancer pharmacology.
Targets(IC50)	SARS-CoV
In vitro	In enzymatic assays, Setomimycin inhibited SARS-CoV-2 Mpro with an IC50 of 12.02 μM. In cellular models, it inhibited NO and cytokine release in LPS-stimulated macrophages (0.01-1 μM), showed antibacterial activity against Gram-positive bacteria (MIC 4-16 μg/mL), and inhibited cancer cell proliferation (IC50 4.57-48 μM) by modulating p-MEK/p-ERK/Bcl-2/Par-4 levels [1].
In vivo	In a 4T1 mouse breast cancer model using BALB/c mice, intraperitoneal (i.p.) administration of Setomimycin (20 mg/kg, every other day) for two weeks reduced primary tumor growth. The treatment resulted in a 76% reduction in tumor weight and a 90.5% reduction in tumor volume compared to the control group [2].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.7224 mL	8.6119 mL	17.2239 mL
5 mM	0.3445 mL	1.7224 mL	3.4448 mL
10 mM	0.1722 mL	0.8612 mL	1.7224 mL
50 mM	0.0344 mL	0.1722 mL	0.3445 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

Präg A, et al. Regio- and stereoselective intermolecular oxidative phenol coupling in Streptomyces. J Am Chem Soc. 2014 Apr 30;136(17):6195-8.
Omura S, et al. A new antibiotic, setomimycin, produced by a strain of Streptomyces. J Antibiot (Tokyo). 1978 Nov; 31(11):1091-8.
Manhas RS, et al. Setomimycin as a potential molecule for COVID-19 target: in silico approach and in vitro validation. Mol Divers. 2023 Apr;27(2):619-633.
Manhas RS, et al. Isolation and anticancer activity evaluation of rare Bisaryl anthraquinone antibiotics from novel Streptomyces sp. strain of NW Himalayan region. Chem Biol Interact. 2022 Sep 25;365:110093.