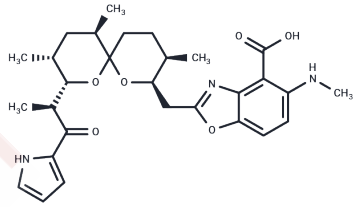
Data Sheet (Cat.No.T10662L)

TargetMol

Calcimycin

Chemical Properties



CAS No. : 52665-69-7

Formula: C29H37N3O6

Molecular Weight: 523.62

Storage: Store at low temperature,Keep away from direct sunlight,Store under nitrogen
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	Calcimycin (A-23187) is an ionophorous, polyether carboxylic antibiotic from Streptomyces chartreusensis. It binds and transports calcium and other divalent cations across membranes, uncouples oxidative phosphorylation, and inhibits ATPase of rat liver mitochondria. The substance is primarily used as a biochemical tool to study the role of divalent cations in various biological systems.
Targets(IC50)	Apoptosis,OXPHOS,Antibacterial,Antibiotic,Autophagy,Antifungal
In vitro	Calcimycin mediates mycobacterial killing by inducing intracellular calcium-regulated autophagy in a P2RX7 dependent manner [4].
In vivo	Calcimycin (2.5 or 7.5 nM; intrapleurally) induces protein leakage [5].

Solubility Information

Solubility	DMSO: 47 mg/mL (89.76 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (3.82 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.9098 mL	9.5489 mL	19.0978 mL
5 mM	0.382 mL	1.9098 mL	3.8196 mL
10 mM	0.191 mL	0.9549 mL	1.9098 mL
50 mM	0.0382 mL	0.191 mL	0.382 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

Wu Q, et al. Characterization of the biosynthesis gene cluster for the pyrrole polyether antibiotic calcimycin (A23187) in Streptomyces chartreusis NRRL 3882. Antimicrob Agents Chemother. 2011 Mar;55(3):974-82.
Elliott JI, et al. IKCa1 activity is required for cell shrinkage, phosphatidylserine translocation and death in Tlymphocyte apoptosis. EMBO Rep. 2003 Feb;4(2):189-94.
Engedal N, et al. Modulation of intracellular calcium homeostasis blocks autophagosome formation. Autophagy. 2013 Oct;9(10):1475-90.
Mawatwal S, et al. Calcimycin mediates mycobacterial killing by inducing intracellular calcium-regulated autophagy in a P2RX7 dependent manner. Biochim Biophys Acta Gen Subj. 2017 Dec;1861(12):3190-3200.
Wang JP, et al. Effect of norathyriol, isolated from Tripterospermum lanceolatum, on A23187-induced pleurisy and analgesia in mice. Naunyn Schmiedebergs Arch Pharmacol. 1994 Jul;350(1):90-5.