Data Sheet (Cat.No.T10662L)



Calcimycin

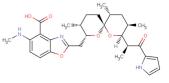
Chemical Properties

CAS No.: 52665-69-7
Formula: C29H37N3O6

Molecular Weight: 523.62

Appearance: white to light yellow Solid

Storage: 0-4°C for short term (days to weeks), or -20°C for long term (months).



Biological Description

Description	Calcimycin is an ionophorous, polyether carboxylic antibiotic from Streptomyces chartreusensis. It binds and transports calcium and other divalent cations across membranes and uncouples oxidative phosphorylation while inhibiting ATPase of rat liver mitochondria. The substance is used mostly as a biochemical tool to study the role of divalent cations in various biological systems.	
Targets(IC ₅₀)	Others: None	
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 (89.76mM)
	(< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.91 mL	9.549 mL	19.098 mL
5 mM	0.382 mL	1.91 mL	3.82 mL
10 mM	0.191 mL	0.955 mL	1.91 mL
50 mM	0.038 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. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Page 1 of 2 www.targetmol.com

Reference

- 1. 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.
- 2. 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.
- 3. Engedal N, et al. Modulation of intracellular calcium homeostasis blocks autophagosome formation. Autophagy. 2013 Oct;9(10):1475-90.
- 4. 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.
- 5. 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.

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Page 2 of 2 www.targetmol.com