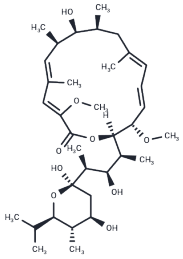
Data Sheet (Cat.No.T6740)

TargetMol

Bafilomycin A1

Chemical Properties



CAS No. : 88899-55-2

Formula: C35H58O9

Molecular Weight: 622.83

Storage: Store at low temperature,Keep away from direct sunlight
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	Bafilomycin A1 belongs to the macrolide class of antibiotics and is a V-ATPase inhibitor (IC50=0.44 nM) that is specific and reversible. Bafilomycin A1 is an inhibitor of the late phase of autophagy, blocking the fusion of autophagosomes with lysosomes. Bafilomycin A1 also induces apoptosis.
Targets(IC50)	Apoptosis,Proton pump,Antibacterial,Antibiotic,Autophagy
In vitro	**METHODS**: Human pancreatic cancer cells Capan-1 were treated with Bafilomycin A1 (1-100 nM) for 72 h. Cell growth inhibition was detected using MTT. **RESULTS**: Bafilomycin A1 dose-dependently inhibited the growth of Capan-1 cells with an IC50 of 5 nM. [1] **METHODS**: Human osteosarcoma cells MG63 were treated with Bafilomycin A1 (1 μmol/L) for 6-24 h. The expression levels of target proteins were detected by Western Blot. **RESULTS**: Bafilomycin A1 induced a significant increase in the levels of apoptosis-related proteins p53 and Beclin 1, a significant decrease in the expression of autophagy-related proteins p62 and LC3-I, and an increase in LC3-II. [2] **METHODS**: Human hepatocellular carcinoma cells BEL7402 and HepG2 were incubated with Bafilomycin A1 (5 nM) for 24 h, and the cell cycle was examined by Flow Cytometry. **RESULTS**: Bafilomycin A1 increased the percentage of BEL7402 and HepG2 cells in the G1 phase of the cell cycle, while cells in the G2/M phase decreased, indicating G1 phase arrest. [3]
In vivo	**METHODS**: To assay antitumor activity in vivo, Bafilomycin A1 (0.1-1 mg/kg) was intraperitoneally injected once daily for three days into NOD-SCID mice harboring the human acute lymphoblastic leukemia tumor B-ALL. **RESULTS**: Bafilomycin A1 prolonged the survival and improved the pathology of xenograft mice by targeting leukemia cells. [4] **METHODS**: To investigate the role of autophagy in chronic wound healing, Bafilomycin A1 (1 mg/kg) was administered as a single intraperitoneal injection to diabetic db/db mice. **RESULTS**: Bafilomycin A1 treatment significantly accelerated wound healing in db/db mice and exerted a favorable healing effect.Bafilomycin A1 may accelerate the healing of diabetic chronic refractory wounds by promoting cell proliferation, collagen

In vivo	production, and modulating inflammatory homeostasis. [5]

Solubility Information

Solubility	DMSO: 99 mg/mL (158.95 mM),Sonication is recommended. H2O: < 0.1 mg/mL (insoluble) (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	5% DMSO + 40% PEG300 + 5% Tween 80 + 50% Saline: 0.3 mg/mL (0.48 mM) *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	1.6056 mL	8.0279 mL	16.0557 mL
5 mM	0.3211 mL	1.6056 mL	3.2111 mL
10 mM	0.1606 mL	0.8028 mL	1.6056 mL
50 mM	0.0321 mL	0.1606 mL	0.3211 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

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