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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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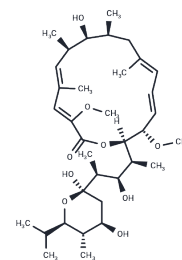
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Bafilomycin A1

Chemical Properties

CAS No. :	88899-55-2
Formula:	C ₃₅ H ₅₈ O ₉
Molecular Weight:	622.83
Appearance:	no data available
Storage:	store at low temperature, keep away from direct sunlight Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	Bafilomycin A1 belongs to the macrolide class of antibiotics and is a V-ATPase inhibitor (IC ₅₀ =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(IC ₅₀)	Apoptosis, Proton pump, Antibacterial, Antibiotic, Autophagy
In vitro	<p>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.</p> <p>RESULTS: Bafilomycin A1 dose-dependently inhibited the growth of Capan-1 cells with an IC₅₀ of 5 nM. [1]</p> <p>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.</p> <p>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]</p> <p>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.</p> <p>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]</p>
In vivo	<p>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.</p> <p>RESULTS: Bafilomycin A1 prolonged the survival and improved the pathology of xenograft mice by targeting leukemia cells. [4]</p> <p>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.</p> <p>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 production, and modulating inflammatory homeostasis. [5]</p>

Solubility Information

Solubility	DMSO: 99 mg/mL (158.95 mM), H ₂ O: 0.1 mg/mL (0.16 mM) (< 1 mg/ml refers to the product slightly soluble or insoluble)
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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.

Reference

Zhang Y, Ding Y, Li M, et al. MicroRNA-34c-5p provokes isoprenaline-induced cardiac hypertrophy by modulating autophagy via targeting ATG4B. *Acta Pharmaceutica Sinica B*. 2021

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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