Bafilomycin C1

Cat. No.: HY-130173

CAS No.: 88979-61-7

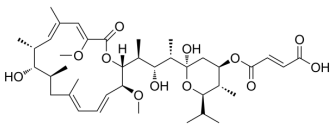
Molecular Formula: $C_{39}H_{60}O_{12}$

Molecular Weight: 720.89

Target: Bacterial; Fungal; Na+/K+ ATPase; Apoptosis; Antibiotic

Pathway: Anti-infection; Membrane Transporter/Ion Channel; Apoptosis

Storage: -20°C, sealed storage, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 5 mg/mL (6.94 mM; Need ultrasonic and warming)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.3872 mL	6.9359 mL	13.8717 mL
	5 mM	0.2774 mL	1.3872 mL	2.7743 mL
	10 mM	---	---	---

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Bafilomycin C1 (0.2 mg/kg body weight, dissolved in 60% 1,2-propanediol)[2]

BIOLOGICAL ACTIVITY

Description

Bafilomycin C1 is a macrolide antibiotic isolated from Streptomyces sp. Bafilomycin C1 is a potent, specific and reversible inhibitor of vacuolar-type H^+-ATPases (V-ATPases). Bafilomycin C1 inhibits growth of gram-positive bacteria and fungi[2]. Bafilomycin C1 induces cell apoptosis and can be used for the study of hepatocellular carcinoma (HCC)[2].

IC_{50} & Target

Macrolide

In Vitro

Bafilomycin C1 (0.33-10 μM; 6 days) inhibits the growth and proliferation of SMMC7721 and HepG2 cells in a timeand dose-dependent manner[2].

Bafilomycin C1 (0.33-3.3 μM; 24 hours) decreases cyclin D3, cyclin E1, CDK2, CDK4, and CDK6 expression in both mRNA and protein expression in SMMC7721 cells[2].

Bafilomycin C1 (3.3-10 μM; 24 hours) causes morphological alterations and increases the population of apoptotic cells by Hoechst 33258 (HY-15558) staining compared to vehicle[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[2]

Cell Line:	SMMC7721 cell and HepG2 cell
Concentration:	0.33 μM, 1.1 μM, and 3.3 μM for SMMC7721 1.1 μM, 3.3 μM, and 10.0 μM for HepG2
Incubation Time:	6 days
Result:	Retarded the cell growth.

Western Blot Analysis[2]

Cell Line:	SMMC7721 cells
Concentration:	3.3 μM
Incubation Time:	24 hours
Result:	Decreaed cyclin D3/E1,CDK2/4/6 protein expression and increased p21.

Apoptosis Analysis[2]

Cell Line:	SMMC7721 and HepG2 cells
Concentration:	3.3 μM; 10 μM
Incubation Time:	24 hours
Result:	Induced apoptosis in SMMC7721 and HepG2 cells.

In Vivo

Bafilomycin C1 (subcutaneous injection; 0.2 mg/kg; 20 days) retards the tumor growth without apparent adverse reactions or side effects in nude mice model[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	BALB/c nude mice (weighing 18-20 g) subcutaneous injected by SMMC7721 cell suspension (5×10^6 cells/100 μL)[2]
Dosage:	0.2 mg/kg
Administration:	Subcutaneous injection; 20 days
Result:	Suppressed tumor growth of SMMC7721 tumor xenografts.

REFERENCES

[1]. E J Bowman, et al. Bafilomycins: A Class of Inhibitors of Membrane ATPases From Microorganisms, Animal Cells, and Plant Cells. Proc Natl Acad Sci U S A. 1988 Nov;85(21):7972-6.

[2]. Xiaoxiao Gao,et al.Bafilomycin C1 Induces G0/G1 Cell-Cycle Arrest and Mitochondrial-Mediated Apoptosis in Human Hepatocellular Cancer SMMC7721 Cells. J Antibiot (Tokyo). 2018 Sep;71(9):808-817.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA