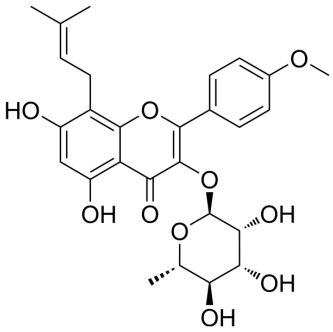
Baohuoside I

Cat. No.:	HY-N0011
CAS No.:	113558-15-9
Molecular Formula:	$C_{27}H_{30}O_{10}$
Molecular Weight:	514.52
Target:	CXCR; Apoptosis
Pathway:	GPCR/G Protein; Immunology/Inflammation; Apoptosis
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 32 mg/mL (62.19 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.9436 mL	9.7178 mL	19.4356 mL
	5 mM	0.3887 mL	1.9436 mL	3.8871 mL
	10 mM	0.1944 mL	0.9718 mL	1.9436 mL

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

In Vivo

1. Add each solvent one by one: 0.5% CMC/saline water
   Solubility: 20 mg/mL (38.87 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (4.04 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (4.04 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.04 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Baohuoside I, a flavonoid isolated from Epimedium koreanum Nakai, acts as an inhibitor of CXCR4, downregulates CXCR4 expression, induces apoptosis and shows anti-tumor activity.

IC_{50} & Target

CXCR4

In Vitro	Baohuoside I is an inhibitor of CXCR4, and downregulates CXCR4 expression at 12-25 μM. Baohuoside I (0-25 μM) suppresses NF-κB activation in a dose-dependent manner, suppresses CXCL12 induced the invasion of cervical cancer cells. Baohuoside I also inhibits invasion of breast cancer cells[1]. Baohuoside I inhibits A549 cell viability, with IC_{50}s of 25.1 μM at 24 h, 11.5 μM and 9.6 μM at 48 h and 72 h, respectively. Baohuoside I ((25 μM) suppresses the caspase cascade in A549 cells, elevates ROS levels and activates JNK and $p38^{MAPK}$ signaling cascade[2]. Baohuoside I (3.125, 6.25, 12.5, 25.0 and 50.0 μg/mL) significantly and dose-dependently blocks the growth of esophageal squamous cell carcinoma Eca109 cells, with an IC_{50} of 4.8 μg/mL at 48 h[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Baohuoside I (25 mg/kg) decreases β-catenin protein levels, cyclin D1 and survivin expression in nude mice[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [2]	The cytotoxicity effect of Baohuoside I on A549 cells is determined by MTT assay. Cells ($1×10^4$ cells/well) are seeded in a 96-well plate, and treated with Baohuoside I (6.25, 12.5, and 25 μM) or 1 mM NAC for 24, 48 or 72 h. After MTT containing medium is removed, the crystals that have formed are dissolved by the addition of DMSO to each well. After mixing, the absorbance of the cells is measured at 540 nm by using Multiskan Spectrum Microplate Reader[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [3]	Mice[3] Female Balb/c nude mice (4- to 6-weeks-old) are used in the assay. Subconfluent Eca109-Luc cells are harvested and resuspended in PBS to a final density of $2 × 10^7$ cells/mL. Prior to injection, cells are resuspended in PBS and analyzed by 0.4% trypan blue exclusion assay (viable cells >90%). For subcutaneous injection, $1 × 10^7$ Eca109-Luc cells in 200 μL PBS are injected into the left flank of each mouse using 27G needles. At 1 week after tumor cell injection, Baohuoside I (25 mg/kg per mouse) is injected intralesionally once a day, whereas the 10 mice intended for vehicle treatment are administered an equal volume of PBS[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Phytomedicine. 2024 Apr 2 155590.
- Biomed Pharmacother. 2020 Sep;129:110369.
- Biomed Pharmacother. 2020 Aug;128:110366.
- Phytother Res. 2023 Dec 11.
- Front Pharmacol. 2022 Jun 30;13:920601.

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REFERENCES

[1]. Kim B, et al. Baohuoside I suppresses invasion of cervical and breast cancer cells through the downregulation of CXCR4 chemokine receptor expression. Biochemistry. 2014 Dec 9;53(48):7562-9.

[2]. Song J, et al. Reactive oxygen species-mediated mitochondrial pathway is involved in Baohuoside I-induced apoptosis in human non-small cell lung cancer. Chem Biol Interact. 2012 Jul 30;199(1):9-17.

[3]. Wang L, et al. The flavonoid Baohuoside-I inhibits cell growth and downregulates survivin and cyclin D1 expression in esophageal carcinoma via β-catenin-dependent

signaling. Oncol Rep. 2011 Nov;26(5):1149-56.

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