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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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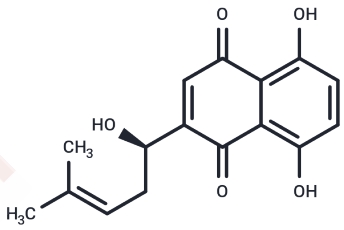
Data Sheet (Cat.No.T1125)

TargetMol

Shikonin

Chemical Properties



CAS No. : 517-89-5

Formula: C16H16O5

Molecular Weight: 288.3

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Shikonin (Anchusa acid) is a natural product, a TMEM16A chloride channel inhibitor (IC50=6.5 μM) and selective PKM2 inhibitor. Shikonin exhibits antitumor, anti-inflammatory and wound healing activities.
Targets(IC50)	TNF,NF-κB,Chloride channel,HIV Protease,PKM
In vitro	**METHODS**: Human glioma cells U87 and U251 were treated with Shikonin (2.5-7.5 μmol/L) for 12-72 h. Cell viability was measured by CCK-8. **RESULTS**: Shikonin inhibited the proliferation of U87 and U251 cells in a time- and dose-dependent manner. [1] **METHODS**: Macrophages RAW264.7 were pretreated with Shikonin (0.5-2 μM) for 1 h, then treated with LPS (250 ng/mL) and IFN-γ (100 ng/mL) for 24 h. Inflammatory factor levels were measured using RT-qPCR and ELISA. **RESULTS**: In LPS+IFN-γ-mimicked RAW264.7 cells, mRNA and protein expression of IL-1β, IL-6 and TNF-α were reduced. [2]
In vivo	**METHODS**: To investigate the efficacy against murine colitis, Shikonin (6.125-25 mg/kg) was administered by gavage to a DSS-induced Balb/c mouse model of colitis once daily for seven days. **RESULTS**: Shikonin attenuated the overall symptoms of DSS-induced colitis in mice and reduced colonic injury. [2] **METHODS**: To detect anti-tumor activity in vivo, Shikonin (0.1-10 mg/kg) was administered intraperitoneally to SCID mice bearing human melanoma B16 once daily for nine days. **RESULTS**: Shikonin treatment inhibited B16 cell growth in SCID mice in a dose-dependent manner. [3]
Cell Research	U87 and U251 cells are seeded into 96-well plates at a density of 1×104 cells per well in standard DMEM and incubated for 24 h under standard conditions (37°C and 5% CO2). Then the medium is replaced with either blank, serum-free DMEM or DMEM containing Shikonin at concentrations of 2.5, 5, and 7.5 μM. The total volume in each well is 200 μL. Finally, the plates are shaken softly and the optical density is recorded at 570 nm (OD570) using a plate reader. At least three independent experiments are performed[4].
Animal Research	Healthy male Sprague-Dawley rats (n=30; 8 to 10-weeks old, 250 to 300 g) are used in this study. Rats were randomly assigned to three groups: Sham-operated group (n=10), osteoarthritis model group (n=10) and Shikonin-treated group (n=10). In the sham-operated group, the right knee joint of the anesthetized rat is only exposed under sterile

conditions, and the rats are treated with 0.1 ml/100 g physiological saline (i.p.). In the osteoarthritis model group, osteoarthritis model rats were treated with 0.1 ml/100 g physiological saline (i.p.). In the Shikonin-treated group, osteoarthritis model rats are treated with 10 mg/kg Shikonin (i.p.) once daily for 4 days after osteoarthritis modeling [5].

Solubility Information

Solubility	DMSO: 57 mg/mL H2O: Insoluble, Ethanol: 13 mg/mL (45.1 mM), (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.4686 mL	17.343 mL	34.6861 mL
5 mM	0.6937 mL	3.4686 mL	6.9372 mL
10 mM	0.3469 mL	1.7343 mL	3.4686 mL
50 mM	0.0694 mL	0.3469 mL	0.6937 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

Lu J, Liu S Y, Zhang J, et al. Inhibition of BAG3 enhances the anticancer effect of shikonin in hepatocellular carcinoma. American Journal of Cancer Research. 2021, 11(7): 3575.