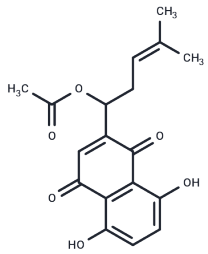
Data Sheet (Cat.No.TN6458)

TargetMol

DL-Acetylshikonin

Chemical Properties



CAS No. : 54984-93-9

Formula: C18H18O6

Molecular Weight: 330.33

Storage: 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	DL-Acetylshikonin can effectively inhibit tumor cells, it can be used to treat hepatocellular carcinoma cells expressing hepatitis B virus X protein (HBX) by inducing ER stress , an oncoprotein from hepatitis B virus. Acetylshikonin inhibits the production of eicosanoid, is due to the attenuation of cytosolic phospholipase A(2) membrane recruitment via the decrease in [Ca(2+)](i) and to the blockade of cyclooxygenase and 5-lipoxygenase activity.
In vitro	Lithospermum erythrorhizon has been used for treatment of inflammatory diseases and cancer as a folk remedy. Based on the evidences that anti-inflammatory agents frequently exert antiangiogenic activity, thus we examined comparatively the antiangiogenic activities of three naphthoquinone derivatives (shikonin, DL-Acetylshikonin, and isobutyroylshikonin) isolated from the plant. METHODS AND RESULTS:Three derivatives exhibited weak cytotoxicity against human umbilical vein endothelial cells (HUVECs) with IC50 of over 20 microM. Shikonin had more specific inhibitory effects on proliferation and vascular endothelial growth factor (VEGF) production by VEGF compared with different derivatives. All of derivatives significantly suppressed the migration of VEGF treated HUVECs at different optimal concentrations. Also, shikonin and Acetylshikonin significantly disrupted VEGF-induced tube formation. Furthermore, three derivatives effectively downregulated the expression of urokinase-type plasminogen activator (uPA), but not its receptor uPAR. Additionally, shikonin significantly inhibited tumor growth in LLC-bearing mice, whereas its derivatives had relatively mild effects. CONCLUSIONS:Taken together, our findings suggest that shikonin and its derivatives exhibit the antiangiogenic and antitumorigenic effects by suppressing proliferation and angiogenic factors.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.0273 mL	15.1364 mL	30.2728 mL
5 mM	0.6055 mL	3.0273 mL	6.0546 mL
10 mM	0.3027 mL	1.5136 mL	3.0273 mL
50 mM	0.0605 mL	0.3027 mL	0.6055 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

Shikonin, acetylshikonin, and isobutyroylshikonin inhibit VEGF-induced angiogenesis and suppress tumor growth in lewis lung carcinoma-bearing mice. Yakugaku Zasshi. 2008 Nov;128(11):1681-8.