Data Sheet (Cat.No.TN6458)

TargetMol
A DRUG SCREENING EXPERT

Acetylshikonin

Chemical Properties

CAS No.:	54984-93-9
Formula:	C18H18O6
Molecular Weight:	N/A
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	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, 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.

Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. 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.

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Tel:781-999-4286 E-mail:info@targetmol.com Address:36 Washington Street,Wellesley Hills,MA 02481