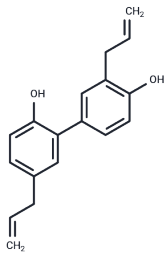
Data Sheet (Cat.No.T3001)

TargetMol

Honokiol

Chemical Properties



CAS No. : 35354-74-6

Formula: C18H18O2

Molecular Weight: 266.33

Storage: Store at low temperature
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	Honokiol (NSC-293100) is the active principle of magnolia extract. It inhibits the activation of Akt and enhances the phosphorylation of ERK1/ERK2.
Targets(IC50)	ERK,HCV Protease,MEK,Akt,Autophagy
In vitro	Honokiol exhibits direct antiangiogenic activity by blocking the phosphorylation and racemization triggered by VEGF-VEGFR2 interaction. It promotes apoptosis in CLL cells through the activation of caspase 8, which then activates caspase 9 and 3. Honokiol demonstrates pro-apoptotic effects in cell lines of melanoma, sarcoma, myeloma, leukemia, bladder cancer, lung cancer, prostate cancer, oral squamous cell carcinoma, and colon cancer. It effectively induces apoptosis in SVR sarcoma cells and inhibits the survival of CLL cells mediated by interleukin-4, enhancing the cytotoxicity of bendamustine, fludarabine, and cladribine. Honokiol kills myeloma cells in relapsed patients at doses that do not harm PBMCs. Treatment with Honokiol reduces the phosphorylation of MAP, akt, and c-src in SVR cells. Moreover, Honokiol treatment induces the cleavage of caspase 3, 7, 8, 9, and PARP. It also induces apoptosis in colon cancer cells RKO, enhances apoptosis, and suppresses osteoclastogenesis and invasiveness by regulating the NF-κB activation pathway.
In vivo	Honokiol inhibits the growth of RKO cell tumors in transplanted mice and effectively counters SVR sarcoma in nude mice. Furthermore, when treating transplanted tumors in mice, Honokiol suppresses the growth of MDA-MD-231 breast cancer cells.
Cell Research	Honokiol is dissolved in DMSO. In cytotoxicity assays, 10,000 cells/well are added to 96 wells plates and incubated overnight, thereafter cells are treated with different concentrations of Honokiol dissolved in dimethylsulphoxide (DMSO). Since Honokiol is not soluble in aqueous solvents, for in vitro studies Honokiol is dissolved in DMSO. To study the possible effect of DMSO on cells, solvent (DMSO) control is used at highest concentration of <0.1%. After 72 h treatment, cells are fixed and cell viability is measured by crystal violet staining (0.05%).

Solubility Information

Solubility	Ethanol: 26.6 mg/mL (99.88 mM),Sonication is recommended. DMSO: 255 mg/mL (957.46 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (18.77 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.7547 mL	18.7737 mL	37.5474 mL
5 mM	0.7509 mL	3.7547 mL	7.5095 mL
10 mM	0.3755 mL	1.8774 mL	3.7547 mL
50 mM	0.0751 mL	0.3755 mL	0.7509 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

Bai X, et al. J Biol Chem, 2003, 278(37), 35501-35507.
Zhang Y, Liu Y, Hou M, et al.Reprogramming of Mitochondrial Respiratory Chain Complex by Targeting SIRT3-COX4I2 Axis Attenuates Osteoarthritis Progression.Advanced Science.2023: 2206144.
Ishitsuka K, et al. Blood, 2005, 106(5), 1794-800.
Battle TE, et al. Blood, 2005, 106(2), 690-697.
Wang T, et al. World J Gastroenterol, 2004, 10(15), 2205-2208.
Ahn KS, et al. Mol Cancer Res, 2006, 4(9), 621-633.
Godugu C, et al. Honokiol nanomicellar formulation produced increased oral bioavailability and anticancer effects in triple negative breast cancer (TNBC). Colloids Surf B Biointerfaces. 2017 Jan 23;153:208-219
Lee TY, et al. Honokiol as a specific collagen receptor glycoprotein VI antagonist on human platelets: Functional ex vivo and in vivo studies. Sci Rep. 2017 Jan 5;7:40002