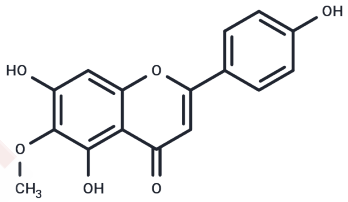
Data Sheet (Cat.No.TQ0201)

TargetMol

Hispidulin

Chemical Properties



CAS No. : 1447-88-7

Formula: C16H12O6

Molecular Weight: 300.26

Storage: Keep away from direct sunlight,Keep away from moisture,Store under nitrogen
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	Hispidulin, a natural flavone with a broad spectrum of biological activities, is a Pim-1 inhibitor (IC50: 2.71 μM).
Targets(IC50)	Pim
In vitro	Hispidulin induces cell death in HepG2 cells in a dose- and time-dependent manner. It promotes apoptosis via mitochondrial dysfunction, characterized by a decreased Bcl-2/Bax ratio, disrupted mitochondrial membrane potential, increased cytochrome C release, and activated caspase-3 [2].
In vivo	Hispidulin treatment effectively mitigates ovariectomy-induced body and bone loss while reducing trabecular spacing in mice [3]. When administered intraperitoneally (10 or 50mg/kg) 30 minutes prior to kainic acid injection (15mg/kg), hispidulin increases seizure latency and lowers seizure scores in rats. Furthermore, it significantly reduces hippocampal neuronal cell death caused by kainic acid, an effect paralleled by diminished microglial activation and decreased production of proinflammatory cytokines, including interleukin-1β, interleukin-6, and tumor necrosis factor-α in the hippocampus [4].
Cell Research	HepG2 cells are treated with different concentrations of hispidulin (50, 100, 200 μM) for 24, 48 and 72 h. Following treatment, cells are further incubated with MTT reagents at 37°C for 4 h before DMSO is added, to dissolve formazan crystals, and absorbance is measured at 570 nm in a microplate reader [2].
Animal Research	The tumor is established in mice. Mice are treated with DMSO or Hispidulin at a dosage of 10, 20 or 40 mg/kg/day for 35 days. The body weight of tumor-bearing mice is recorded every week and tumor volume is calculated [2].

Solubility Information

Solubility	H2O: Insoluble, DMSO: 60 mg/mL (199.83 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: 2 mg/mL (6.66 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	3.3304 mL	16.6522 mL	33.3045 mL
5 mM	0.6661 mL	3.3304 mL	6.6609 mL
10 mM	0.333 mL	1.6652 mL	3.3304 mL
50 mM	0.0666 mL	0.333 mL	0.6661 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

Chao SW, et al. Total Synthesis of Hispidulin and the Structural Basis for Its Inhibition of Proto-oncogene KinasePim-1. J Nat Prod. 2015 Aug 28;78(8):1969-76.

Gao H, et al. Hispidulin induces apoptosis through mitochondrial dysfunction and inhibition of P13k/Akt signalling pathway in HepG2 cancer cells. Cell Biochem Biophys. 2014 May;69(1):27-34.

Zhou R, et al. Hispidulin exerts anti-osteoporotic activity in ovariectomized mice via activating AMPK signaling pathway. Cell Biochem Biophys. 2014 Jun;69(2):311-7.

Lin TY, et al. Protective effect of hispidulin on kainic acid-induced seizures and neurotoxicity in rats. Eur J Pharmacol. 2015 May 15;755:6-15.

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