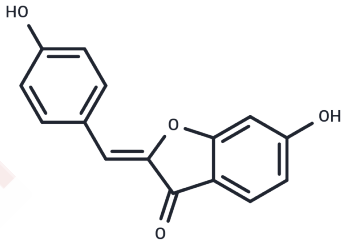
Data Sheet (Cat.No.T4319)

TargetMol

Hispidol

Chemical Properties



CAS No. : 5786-54-9

Formula: C15H10O4

Molecular Weight: 254.24

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	Hispidol ((Z)-Hispidol) ((Z)-Hispidol) is a potential therapeutic for inflammatory bowel disease; inhibits TNF-α induced adhesion of monocytes to colon epithelial cells with an IC50 of 0.50 μM.
Targets(IC50)	TNF
In vitro	Hispidol demonstrates potent inhibitory effects on TNF-α-induced adhesion of monocytes to colonic epithelial cells and LPS-induced TNF-α expression, making it a promising candidate for inflammatory bowel disease (IBD) drug development. This compound not only inhibits TNF-α expression effectively (>70%)—a critical event in IBD progression—but also suppresses AP-1 transcriptional activity, which is essential for high levels of TNF-α expression.
In vivo	Oral administration of hispidol suppresses TNBS-induced colitis in a dose-dependent manner. Body weight loss and colon tissue edematous inflammation are recovered significantly. The oral administration of hispidol suppresses significantly and dose-dependently TNBS-induced rat colitis. A higher dose (30 mg/kg) of hispidol shows a similar recovery effect to that of 300 mg/kg sulfasalazine. In the colon tissues, TNBS induces a dramatic increase in the level of MPO, a biochemical marker of inflammation, which is suppressed significantly by hispidol in a dose-dependent manner.
Animal Research	Hispidol is prepapred in corn oil.Rat: To study the effect of the drugs, hispidol (10 or 30 mg/Kg/day in corn oil) is administered orally once in a day, until 5 days after TNBS administration. The doses of 10 or 30 mg/kg are selected based on previous studies. The concentration of the compound inhibiting 70% and 90% (μM) cell-to-cell adhesion is selected and regarded as the in vivo test dose (mg/kg). Sulfasalazine (300 mg/Kg/day) is administered in corn oil as a positive control. On the 6th day, the rats are sacrificed and the severity of colitis and macroscopic ulceration are evaluated by two independent investigators who are blinded to the experiments. The colon tissues (5-7 cm proximal to rectum) are cut and used to measure the amount of myeloperoxidase and for the histological examinations[1].

Solubility Information

Solubility	DMSO: 6.25 mg/mL (24.58 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.9333 mL	19.6665 mL	39.3329 mL
5 mM	0.7867 mL	3.9333 mL	7.8666 mL
10 mM	0.3933 mL	1.9666 mL	3.9333 mL
50 mM	0.0787 mL	0.3933 mL	0.7867 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

Kadayat TM, et al. Discovery and structure-activity relationship studies of 2-benzylidene-2,3-dihydro-1H-inden-1-one and benzofuran-3(2H)-one derivatives as a novel class of potential therapeutics for inflammatory bowel disease. Eur J Med Chem. 2017 Sep 8;137:575-597.