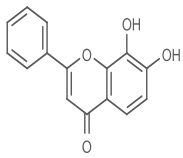
Data Sheet (Cat.No.T2816)

TargetMol
A DRUG SCREENING EXPERT

7,8-Dihydroxyflavone

Chemical Properties



CAS No.:	38183-03-8
Formula:	C15H10O4
Molecular Weight:	254.24
Appearance:	Solid
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	7, 8-Dihydroxyflavone (7, 8-DHF) is a naturally-occurring flavone and exist in Tridax procumbens, Godmania aesculifolia, and primula tree leaves.
Targets(IC_{50})	TrkB: 320nM(Kd)
In vitro	7,8-DHF is one of the positive compounds that specifically activate TrkB, but not TrkA or TrkC, at a concentration of 250 nM. In addition to cortical and hippocampal neurons, 7,8-DHF also protects other cell types including the RGC (retinal ganglion cells) and PC12 cells from excitotoxic and oxidative stress-induced apoptosis and cell death. Thus, it has neuroprotective properties[1].
In vivo	7,8-Dihydroxyflavone is a bioavailable chemical that can pass through the BBB to provoke TrkB and its downstream PI3K/Akt and MAPK activation in mouse brain upon intraperitoneal or oral administration. 7,8-DHF promotes the survival and reduces apoptosis in cortical neurons of traumatic brain injury as administration of 7,8-DHF at 3 h post-injury reduces brain tissue damage via the PI3K/Akt pathway. Its treatment does not induce any apparent toxicity in mice and is not toxic to the mice during the chronic treatment. 7,8-DHF displays robust therapeutic efficacy toward Alzheimer's disease and inhibits obesity through activating muscular TrkB[1].
Cell Research	PC12 cells are seeded in 96-well plates at 104/well. After pretreatment with 7,8-DHF (1-25 μM) for 1 h, the cells are exposed to 6-OHDA (100 μM) for subsequent 24 h. The PI3k inhibitor LY294002 or MEK inhibitor PD98059 is added 30 min before 7,8-DHF treatment. At the end of the experiment, PC12 cells are incubated with 20 μl of MTT solution (5 mg/ml in PBS) for 4 h at 37 ◦C. The dark blue formazan product due to the reduction of MTT is dissolved in 150 μl of DMSO, and the absorbance at 570 nm is recorded with a microplate reader. The viability is expressed as the percentage of the untreated control cells. (Only for Reference) Cell lines: Rat pheochromocytoma (PC12) cells
Animal Research	Animal Model: Wistar rats; APPswe/PS1dE9 transgenic mice

Solubility Information

Solubility	DMSO: 47 mg/mL (184.9 mM) Ethanol: 1 mg/mL (3.93 mM) Water: <1 mg/mL (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.933 mL	19.666 mL	39.333 mL
5 mM	0.787 mL	3.933 mL	7.867 mL
10 mM	0.393 mL	1.967 mL	3.933 mL
50 mM	0.079 mL	0.393 mL	0.787 mL

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. Liu C, et al. Transl Neurodegener. 2016, 5:2.
2. Bollen E, et al. Behav Brain Res. 2013, 257:8-12.
3. Han XH, et al. Neurosci Lett. 2014, 581:85-8.

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