5-Methoxyflavone

Cat. No.: HY-107790

CAS No.: 42079-78-7

Molecular Formula: $C_{16}H_{12}O_3$

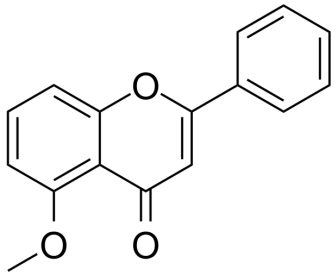
Molecular Weight: 252.26

Target: DNA/RNA Synthesis

Pathway: Cell Cycle/DNA Damage

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (495.52 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.9642 mL	19.8208 mL	39.6416 mL
5 mM	0.7928 mL	3.9642 mL	7.9283 mL
10 mM	0.3964 mL	1.9821 mL	3.9642 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (8.25 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (8.25 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (8.25 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

5-Methoxyflavone, belonged to Flavonoid family, is a DNA polymerase-beta inhibitor and neuroprotective agent against beta-amyloid toxicity. possess central nervous system (CNS) depressant effect mediated through the ionotropic $GABA_A$ receptors.

IC_{50} & Target

DNA polymerase-beta[1].

In Vitro

5-Methoxyflavone (compound 1) is identified as a candidate compound endowed with the ability to inhibit DNA pol-β in

	multiple and to prevent cell-cycle initiation and subsequent neuronal apoptosis in Aβ-challenged primary neuronal cultures. 5-methoxyflavone (10-30 μM) is able to significantly enhance toxicity of MMS on 92TAg cells. 5-Methoxyflavone (1 or 10 μM) significantly reduces polymerase activity on a gapped substrate[1]. 5-Methoxyflavone (5-MF, 0-100 μg/mL) results in a time dependent reduction in the levels of antiapoptotic proteins cFLIP, Mcl-1 and an increase in the proapoptotic protein BAX. 5-MF induces both TRAIL-R1(DR4) and TRAIL-R2 (DR5) in a time-dependent manner[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	5-Methoxyflavone (100, 150 mg/kg, i.p) significantly decreases the latency time to loss of righting reflex. 5-Methoxyflavone (50, 100 and 150 mg/kg, i.p) exhibits a significant and dose-dependent reduction in the spontaneous locomotor activity. 5-Methoxyflavone (50, 100 mg/kg, i.p) reduces the rearing response. 5-Methoxyflavone (100, 125 and 150 mg/kg, i.p) completely abolishesed the grooming response similar to diazepam treated animals[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Merlo S, et al. Identification of 5-Methoxyflavone as a Novel DNA Polymerase-Beta Inhibitor and Neuroprotective Agent against Beta-Amyloid Toxicity. J Nat Prod. 2015 Nov 25;78(11):2704-11.

[2]. Shanmugasundaram J, et al. Sedative-hypnotic like effect of 5-methoxyflavone in mice and investigation on possible mechanisms by in vivo and in silico methods. Biomed Pharmacother. 2018 Dec;108:85-94.

[3]. Wudtiwai B, et al. Methoxyflavone derivatives modulate the effect of TRAIL-induced apoptosis in human leukemic cell lines. J Hematol Oncol. 2011 Dec 21;4:52.

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