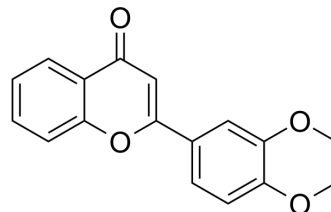


3',4'-Dimethoxyflavone

Cat. No.:	HY-N8572		
CAS No.:	4143-62-8		
Molecular Formula:	C ₁₇ H ₁₄ O ₄		
Molecular Weight:	282.29		
Target:	PARP; Reactive Oxygen Species; Aryl Hydrocarbon Receptor		
Pathway:	Cell Cycle/DNA Damage; Epigenetics; Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 50 mg/mL (177.12 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	3.5425 mL	17.7123 mL	35.4246 mL
	5 mM	0.7085 mL	3.5425 mL	7.0849 mL
	10 mM	0.3542 mL	1.7712 mL	3.5425 mL

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.5 mg/mL (8.86 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.5 mg/mL (8.86 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

3',4'-Dimethoxyflavone is a lipophilic flavone, can be isolated from the leaves of *Primula veris*. 3',4'-Dimethoxyflavone can reduce the synthesis and accumulation of PARP and protect cortical neurones against cell death induced by Parthanatos. 3',4'-Dimethoxyflavone is also an aryl hydrocarbon receptor antagonist in human breast cancer cells. 3',4'-Dimethoxyflavone can promote the proliferation of human hematopoietic stem cells. 3',4'-Dimethoxyflavone has various biological activities, including antioxidant, anti-cancer, anti-inflammatory, anti-atherogenic, hypolipidaemic, and neuroprotective or neurotrophic effects^{[1][2][3][4]}.

IC₅₀ & Target

PARP, Aryl hydrocarbon receptor^[1]

In Vitro

3',4'-Dimethoxyflavone (10 and 20 μM) has protection against the reduction in SH-SY5Y viability induced by

[Methylnitrosoguanidine](#) (MNNG) (HY-128612)^[2].

3',4'-Dimethoxyflavone (6.25-25 μM) decreases the levels of PAR induced by MNNG in HeLa cells^[2].

3',4'-Dimethoxyflavone (12.5, 25, 50 and 100 μM ; 15-20 h) reduces cortical neuronal death induced by exposure to [NMDA](#) (HY-17551)^[2].

3',4'-Dimethoxyflavone (0.1-10 μM ; 24 h) exhibits significant inhibition of 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)-induced EROD activity in MCF-7 and T47D cells^[3].

3',4'-Dimethoxyflavone inhibits AhR-dependent CYP1A1 induction and AhR-mediated inhibition of estrogen-induced gene expression in T47D and MCF-7 breast cancer cells^[3].

3',4'-Dimethoxyflavone (2.5 μM ; 7 days) promotes the proliferation of human hematopoietic stem cells^[4].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay^[2]

Cell Line:	Primary cortical neurones (isolated from fetal CD1 mice, incubated with NMDA)
Concentration:	12.5, 25, 50 and 100 μM
Incubation Time:	15-20 h
Result:	Reduced concentration-dependently neuronal death induced by exposure to NMDA.

Cell Proliferation Assay^[4]

Cell Line:	CD ³⁴⁺ cells
Concentration:	2.5 μM
Incubation Time:	7 days
Result:	Induced a significantly higher amplification of the CD ³⁴⁺ population under normoxia.

REFERENCES

[1]. Budzianowski J, et al. Lipophilic flavones of *Primula veris* L. from field cultivation and in vitro cultures. *Phytochemistry*. 2005 May;66(9):1033-9.

[2]. Fatokun AA, et al. Identification through high-throughput screening of 4'-methoxyflavone and 3',4'-dimethoxyflavone as novel neuroprotective inhibitors of parthanatos. *Br J Pharmacol*. 2013 Jul;169(6):1263-78.

[3]. Lee JE, et al. 3',4'-dimethoxyflavone as an aryl hydrocarbon receptor antagonist in human breast cancer cells. *Toxicol Sci*. 2000 Dec;58(2):235-42.

[4]. Kaur K, et al. 3',4'-Dimethoxyflavone and valproic acid promotes the proliferation of human hematopoietic stem cells. *Stem Cell Res Ther*. 2013 May 24;4(3):60.

Caution: Product has not been fully validated for medical applications. For research use only.

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