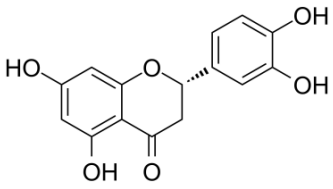
Eriodictyol

Cat. No.:	HY-N0637
CAS No.:	552-58-9
Molecular Formula:	$C_{15}H_{12}O_6$
Molecular Weight:	288.25
Target:	Keap1-Nrf2; Influenza Virus; DNA/RNA Synthesis; Endogenous Metabolite
Pathway:	NF-κB; Anti-infection; Cell Cycle/DNA Damage; Metabolic Enzyme/Protease
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (**433.65 mM;** Need ultrasonic)
H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.4692 mL	17.3461 mL	34.6921 mL
	5 mM	0.6938 mL	3.4692 mL	6.9384 mL
	10 mM	0.3469 mL	1.7346 mL	3.4692 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: ≥ 2.58 mg/mL (8.95 mM); Clear solution
2. Add each solvent one by one: **10% DMSO >> 90% (20% SBE-β-CD in saline)**
   Solubility: ≥ 2.58 mg/mL (8.95 mM); Clear solution
3. Add each solvent one by one: **10% DMSO >> 90% corn oil**
   Solubility: ≥ 2.58 mg/mL (8.95 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Eriodictyol is a flavonoid isolated from the Chinese herb, with antioxidant and anti-inflammatory activity. Eriodictyol induces **Nrf2** signaling pathway. Eriodictyol is also a potent **influenza RNA-dependent RNA polymerase** inhibitor with an **IC_{50}** of 18 nM.

IC_{50} & Target

Human Endogenous Metabolite

In Vitro

Eriodictyol is a flavonoid isolated from the Chinese herb, with antioxidant and anti-inflammatory activity[1]. Eriodictyol

	(20, 40, 80 μM) protects primary cultured cortical neurons against $A\beta_{25-35}$-induced cytotoxicity and cell apoptosis via the Nrf2/ARE pathway. Eriodictyol (80 μM) induces nuclear expression of Nrf2 and the expression of ARE-regulated genes in primary cultured cortical neurons[2].
In Vivo	Eriodictyol shows protective effect against LPS-induced acute lung injury (ALI). Eriodictyol (30 mg/kg, p.o.) decreases the production of inflammatory cytokines, elevates survival rate, and decreases oxidative stress levels in LPS-induced ALI mice. Eriodictyol inhibits MPO activity and inflammatory neutrophil accumulation in the lung tissues. Eriodictyol treatment also enhances Trx1 expression by upregulating the Nrf2 expression in lung tissues[1].

PROTOCOL

Cell Assay [2]	Primary cultures of **cortical neurons** are prepared from day 17 Sprague-Dawley rat embryos and maintained in Neurobasal A medium supplemented with B27. Experiments are performed 7 days after seeding. $A\beta_{25-35}$ is dissolved in deionized distilled water at a concentration of 1 mM and incubated at 37°C for 7 days to induce its aggregation. **Eriodictyol** is added at indicated concentrations (**20, 40, 80 μM**) 2 h prior to $A\beta_{25-35}$ treatment. **Eriodictyol** is dissolved in dimethyl sulfoxide (**DMSO**) at 64 mM as stock solution and diluted in culture medium before use[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [1]	Mice[1] Eighty **female C57BL/6 mice** are anesthetized by an intraperitoneal injection of 150 mg/kg ketamine HCl and 65 μg/kg xylazine hydrochloride. E. coli LPS is instilled intratracheally (25 μg in 50 μL sterile saline) during inspiration. The control mice receive PBS instillation, while the Eriodictyol- and vehicle-treated mice receive **Eriodictyol (30 mg/kg, dissolved in PBS)** and vehicle (**PBS**), respectively, **orally** 2 days prior to the induction of ALI. The mice are then sacrificed by an intravenous injection of thiopental 24 h after the induction of ALI. The thorax is opened and the blood is sampled by cardiac puncture. Simultaneously, three bronchoalveolar lavage (BAL) procedures are performed, each using 0.5 mL normal saline. The blood is centrifuged (2,000 × g, for 10 min at 4°C) and the serum is stored for further processing; the survival curve is then depicted using the Kaplan-Meier method[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- **Eur J Med Chem**. 22 August 2020, 112754.

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REFERENCES

[1]. Zhu GF, et al. Eriodictyol, a plant flavonoid, attenuates LPS-induced acute lung injury through its antioxidative and anti-inflammatory activity. Exp Ther Med. 2015 Dec;10(6):2259-2266. Epub 2015 Oct 23.

[2]. Jing X, et al. Eriodictyol Attenuates β-Amyloid 25-35 Peptide-Induced Oxidative Cell Death in Primary Cultured Neurons by Activation of Nrf2. Neurochem Res. 2015 Jul;40(7):1463-71.

[3]. Václav Zima, et al. Unraveling the Anti-Influenza Effect of Flavonoids: Experimental Validation of Luteolin and its Congeners as Potent Influenza Endonuclease Inhibitors. Eur J Med Chem. 22 August 2020, 112754.

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

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