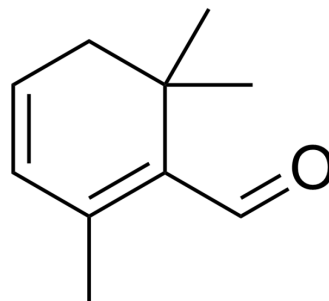


Safranal

Cat. No.:	HY-N7560
CAS No.:	116-26-7
Molecular Formula:	C ₁₀ H ₁₄ O
Molecular Weight:	150.22
Target:	Keap1-Nrf2
Pathway:	NF-κB
Storage:	-20°C, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (665.69 mM; Need ultrasonic)
Ethanol : 100 mg/mL (665.69 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	6.6569 mL	33.2845 mL	66.5690 mL
	5 mM	1.3314 mL	6.6569 mL	13.3138 mL
	10 mM	0.6657 mL	3.3285 mL	6.6569 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 (16.64 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: 2.5 mg/mL (16.64 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (16.64 mM); Clear solution
- Add each solvent one by one: 10% EtOH >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (16.64 mM); Clear solution
- Add each solvent one by one: 10% EtOH >> 90% (20% SBE-β-CD in saline)
Solubility: 2.5 mg/mL (16.64 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% EtOH >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (16.64 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Safranal is an orally active main component of Saffron (*Crocus sativus*) and is responsible for the unique aroma of this spice.

Safranal has neuroprotective and anti-inflammatory effects and has the potential for Parkinson's disease research^[1].

In Vitro

Safranal (10-50 μ M; for 1 h) dose-dependently decreases LPS-induced iNOS and COX-2 levels in both RAW264.7 cells and BMDMs^[1].

Safranal (10-50 μ M; for 1 h) inhibits cytokine IL-6 and TNF- α production and mRNA expression in lipopolysaccharide (LPS)-stimulated RAW 264.7 cells^[1].

Safranal (10, 50 μ M; for 1 h followed by stimulation with 1 μ g/ml of LPS for 30 min) inhibits the nuclear translocation of NF- κ B and AP-1 in lipopolysaccharide (LPS)-stimulated RAW264.7 cells^[1].

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

Western Blot Analysis^[1]

Cell Line:	RAW264.7 cells and bone marrow-derived macrophages (BMDMs)
Concentration:	10, 50 μ M
Incubation Time:	For 1 h prior to lipopolysaccharide (LPS) stimulation (1 μ g/ml)
Result:	Dose-dependently decreased LPS-induced iNOS and COX-2 levels in both RAW264.7 cells and BMDMs. Inhibited the phosphorylation of MAPK pathway proteins extracellular signal-regulated kinase (ERK), c-Jun N-terminal kinase (JNK), p38. Inhibited NF- κ B pathway proteins IKK α / β and I κ B α and the degradation of I κ B α .

RT-PCR^[1]

Cell Line:	RAW 264.7 cells
Concentration:	10, 50 μ M
Incubation Time:	For 1 h followed by stimulation with LPS (1 μ g/ml) for 24 h
Result:	Inhibited cytokine IL-6 and TNF- α production and mRNA expression in lipopolysaccharide (LPS)-stimulated RAW 264.7 cells.

In Vivo

Safranal (200-500 mg/kg; PO; for 7 days) causes a slight restoration of colon length and percentage of weight loss, and the DAI score is significantly low^[1].

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

Animal Model:	Female BALB/c mice (18-20 g) (DSS-induced colitis mice) ^[1]
Dosage:	200, 500 mg/kg
Administration:	PO; for 7 days
Result:	Caused a slight restoration of colon length and percentage of weight loss, and the DAI score is significantly low.

CUSTOMER VALIDATION

- Phytomedicine. 2023 Mar 5.
- bioRxiv. 2023 Jun 3.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Peeraphong Lertnimitphun, et al. Safranal Alleviates Dextran Sulfate Sodium-Induced Colitis and Suppresses Macrophage-Mediated Inflammation. Front Pharmacol. 2019 Nov 1;10:1281.

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

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