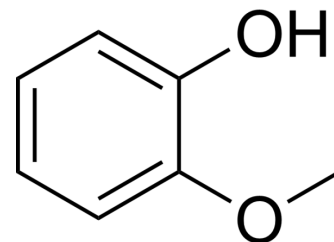


Guaiacol

Cat. No.:	HY-N1380		
CAS No.:	90-05-1		
Molecular Formula:	C ₇ H ₈ O ₂		
Molecular Weight:	124.14		
Target:	COX; NF-κB; Endogenous Metabolite		
Pathway:	Immunology/Inflammation; NF-κB; Metabolic Enzyme/Protease		
Storage:	Pure form	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (805.54 mM)
 H₂O : 37.5 mg/mL (302.08 mM; Need ultrasonic)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	8.0554 mL	40.2771 mL	80.5542 mL
	5 mM	1.6111 mL	8.0554 mL	16.1108 mL
	10 mM	0.8055 mL	4.0277 mL	8.0554 mL

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

In Vivo

- Add each solvent one by one: PBS
Solubility: 16.67 mg/mL (134.28 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (20.14 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (20.14 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (20.14 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Guaiacol, a phenolic compound, inhibits LPS-stimulated COX-2 expression and NF-κB activation^[1]. Anti-inflammatory activity^[1].

IC ₅₀ & Target	COX-2	NF-κB
In Vitro	Guaiacol inhibits LPS-stimulated nuclear factor kappa B (NF-κB) activation and cyclooxygenase (COX)-2 gene expression in cells of the RAW 264.7 murine macrophage cell line. Phenolic compounds such as Phenol, Eugenol, Guaiacol and Vanillin inhibit sheep vesicular gland prostaglandin cyclooxygenase, as indicated by their 50% inhibition concentrations, which decline in the following order: Phenol (1600 μM) > Vanillin (>500 μM) > Guaiacol (72 μM) > Eugenol (12 μM) ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

REFERENCES

[1]. Murakami Y, et al. Re-evaluation of cyclooxygenase-2-inhibiting activity of vanillin and Guaiacol in macrophages stimulated with lipopolysaccharide. *Anticancer Res.* 2007 Mar-Apr;27(2):801-7.

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

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