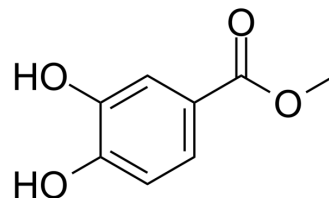


Methyl 3,4-dihydroxybenzoate

Cat. No.:	HY-Z0548		
CAS No.:	2150-43-8		
Molecular Formula:	C ₈ H ₆ O ₄		
Molecular Weight:	168.15		
Target:	Keap1-Nrf2; Apoptosis		
Pathway:	NF-κB; Apoptosis		
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 (297.35 mM; Need ultrasonic)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	5.9471 mL	29.7354 mL	59.4707 mL
	5 mM	1.1894 mL	5.9471 mL	11.8941 mL
	10 mM	0.5947 mL	2.9735 mL	5.9471 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 (14.87 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (14.87 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (14.87 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Methyl 3,4-dihydroxybenzoate (Protocatechuic acid methyl ester; Methyl protocatechuate) is a major metabolite of antioxidant polyphenols found in green tea. Antioxidant and anti-inflammatory effect^[1].

In Vitro

Methyl 3,4-dihydroxybenzoate (Protocatechuic acid methyl ester; Methyl protocatechuate) alleviates the toxic effects of F⁻ via modulating its bioavailability, intracellular calcium level, mitochondrial membrane integrity and redox signaling in A549 cells^[1].

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

In Vivo

Methyl 3,4-dihydroxybenzoate (Protocatechuic acid methyl ester; Methyl protocatechuate) (25 or 50 mg/kg bw/day) prevents the cellular F⁻ accumulation and oxidative stress. Methyl 3,4-dihydroxybenzoate prevents the inflammatory and associated fibrosis progression by restoring the expression of RAGE and Nrf2^[2].

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

REFERENCES

[1]. Ameeramja J, et al. Protocatechuic acid methyl ester ameliorates fluoride toxicity in A549 cells. Food Chem Toxicol. 2017 Nov;109(Pt 2):941-950.

[2]. Ameeramja J, et al. Protocatechuic acid methyl ester modulates fluoride induced pulmonary toxicity in rats. Food Chem Toxicol. 2018 Aug;118:235-244.

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

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