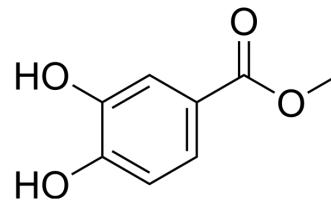


## Methyl 3,4-dihydroxybenzoate

<b>Cat. No.:</b>	HY-Z0548		
<b>CAS No.:</b>	2150-43-8		
<b>Molecular Formula:</b>	C <sub>8</sub> H <sub>8</sub> O <sub>4</sub>		
<b>Molecular Weight:</b>	168.15		
<b>Target:</b>	Keap1-Nrf2; Apoptosis		
<b>Pathway:</b>	NF-κB; Apoptosis		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 50 mg/mL (297.36 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM	5.9471 mL	29.7357 mL	59.4714 mL
		5 mM	1.1894 mL	5.9471 mL	11.8943 mL
10 mM		0.5947 mL	2.9736 mL	5.9471 mL	
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	<ol style="list-style-type: none"> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: ≥ 2.5 mg/mL (14.87 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (14.87 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.5 mg/mL (14.87 mM); Clear solution</li> </ol>				

### BIOLOGICAL ACTIVITY

<b>Description</b>	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 <sup>[1]</sup> .
<b>In Vitro</b>	<p>Methyl 3,4-dihydroxybenzoate (Protocatechuic acid methyl ester; Methyl protocatechuate) alleviates the toxic effects of F<sup>-</sup> via modulating its bioavailability, intracellular calcium level, mitochondrial membrane integrity and redox signaling in A549 cells<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

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**In Vivo**

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

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

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**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.

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

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