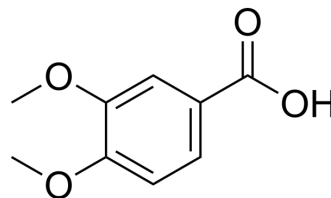


## Veratric acid

<b>Cat. No.:</b>	HY-N2007		
<b>CAS No.:</b>	93-07-2		
<b>Molecular Formula:</b>	C <sub>9</sub> H <sub>10</sub> O <sub>4</sub>		
<b>Molecular Weight:</b>	182.17		
<b>Target:</b>	COX; Reactive Oxygen Species		
<b>Pathway:</b>	Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB		
<b>Storage:</b>	Powder	-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 (548.94 mM; Need ultrasonic)  
 H<sub>2</sub>O : 1.1 mg/mL (6.04 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	5.4894 mL	27.4469 mL	54.8938 mL
	5 mM	1.0979 mL	5.4894 mL	10.9788 mL
	10 mM	0.5489 mL	2.7447 mL	5.4894 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: ≥ 2.75 mg/mL (15.10 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
 Solubility: ≥ 2.75 mg/mL (15.10 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
 Solubility: ≥ 2.75 mg/mL (15.10 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Veratric acid (3,4-Dimethoxybenzoic acid) is an orally active phenolic compound derived from vegetables and fruits, has antioxidant<sup>[1]</sup> and anti-inflammatory activities<sup>[3]</sup>. Veratric acid also acts as a protective agent against hypertension-associated cardiovascular remodelling<sup>[2]</sup>. Veratric acid reduces upregulated COX-2 expression, and levels of PGE<sub>2</sub>, IL-6 after UVB irradiation<sup>[3]</sup>.

#### IC<sub>50</sub> & Target

COX-2<sup>[3]</sup>

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<b>In Vitro</b>	<p>Veratric acid (100, 200 <math>\mu</math>M) suppresses iNOS expression in LPS-stimulated RAW264.7 cells. Veratric acid (200 <math>\mu</math>M) inhibits LPS-induced activation of the PI3K/Akt pathway, HAT activation and HDAC3 expression in RAW264.7 cells<sup>[1]</sup>.</p> <p>Veratric Acid (10-100 <math>\mu</math>g/mL) has anti-inflammatory activity, protects HaCaT cells against UVB-mediated phototoxicity, increases S-phase cells, and prevents UVB-mediated apoptosis<sup>[3]</sup>.</p> <p>Veratric acid reduces upregulated COX-2 expression, and levels of PGE2, IL-6 after UVB irradiation<sup>[3]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
<b>In Vivo</b>	<p>Veratric acid (40 mg/kg, p.o., b.w.) significantly promotes ventricular function, reduces lipid peroxidation and increases antioxidants in L-NAME-induced hypertensive rats<sup>[2]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

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## REFERENCES

- [1]. Choi WS, et al. Veratric acid inhibits iNOS expression through the regulation of PI3K activation and histone acetylation in LPS-stimulated RAW264.7 cells. *Int J Mol Med.* 2015 Jan;35(1):202-10.
- [2]. Saravanakumar M, et al. Oral administration of veratric acid, a constituent of vegetables and fruits, prevents cardiovascular remodelling in hypertensive rats: a functional evaluation. *Br J Nutr.* 2015 Nov 14;114(9):1385-94.
- [3]. Shin SW, et al. Antagonist effects of veratric acid against UVB-induced cell damages. *Molecules.* 2013 May 10;18(5):5405-19.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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