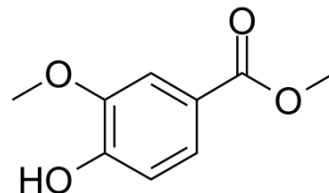


## Methyl vanillate

Cat. No.:	HY-75342
CAS No.:	3943-74-6
Molecular Formula:	C <sub>9</sub> H <sub>10</sub> O <sub>4</sub>
Molecular Weight:	182.17
Target:	Wnt; Reactive Oxygen Species
Pathway:	Stem Cell/Wnt; Immunology/Inflammation; Metabolic Enzyme/ProteaseNF-κB
Storage:	4°C, stored under nitrogen



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : ≥ 100 mg/mL (548.94 mM)  
 H<sub>2</sub>O : 1.67 mg/mL (9.17 mM; Need ultrasonic)  
 \* "≥" means soluble, but saturation unknown.

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: ≥ 2.5 mg/mL (13.72 mM); Clear solution
- Add each solvent one by one: **10% DMSO >> 90% corn oil**  
Solubility: ≥ 2.5 mg/mL (13.72 mM); Clear solution
- Add each solvent one by one: **10% DMSO >> 90% (20% SBE-β-CD in saline)**  
Solubility: ≥ 2.5 mg/mL (13.72 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Methyl vanillate, one of the ingredients in *Hovenia dulcis* Thunb, is a **Wnt/β-catenin** pathway activator<sup>[1]</sup>. A benzoate ester that is the methyl ester of vanillic acid. It has a role as an antioxidant and a plant metabolite.

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

Wnt/β-catenin<sup>[1]</sup>

#### In Vitro

Methyl vanillate (0-100 μM) increases the expression and nuclear translocation of β-catenin in calvarial osteoblasts.

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Methyl vanillate dose-dependently elevates ALP activity in calvarial osteoblasts<sup>[1]</sup>.

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## REFERENCES

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[1]. Cha PH, et al. Hovenia dulcis Thunb extract and its ingredient methyl vanillate activate Wnt/ $\beta$ -catenin pathway and increase bone mass in growing or ovariectomized mice. PLoS One. 2014 Jan 22;9(1):e85546.

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

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