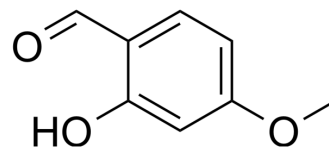


## 2-Hydroxy-4-methoxybenzaldehyde

Cat. No.:	HY-N0445
CAS No.:	673-22-3
Molecular Formula:	C <sub>8</sub> H <sub>8</sub> O <sub>3</sub>
Molecular Weight:	152.15
Target:	Tyrosinase; Bacterial
Pathway:	Metabolic Enzyme/Protease; Anti-infection
Storage:	4°C, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : ≥ 50 mg/mL (328.62 mM)  
 H<sub>2</sub>O : 2 mg/mL (13.14 mM; Need ultrasonic)  
 \* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	6.5725 mL	32.8623 mL	65.7246 mL
	5 mM	1.3145 mL	6.5725 mL	13.1449 mL
	10 mM	0.6572 mL	3.2862 mL	6.5725 mL

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

#### In Vivo

- Add each solvent one by one: PBS  
Solubility: 50 mg/mL (328.62 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 (16.43 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.5 mg/mL (16.43 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.5 mg/mL (16.43 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

2-hydroxy-4-methoxybenzaldehyde is a potent tyrosinase inhibitor<sup>[1]</sup>. 2-Hydroxy-4-methoxybenzaldehyde, an isomer of Vanillin, could be used to synthesis Urolithin M7<sup>[2]</sup>

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

Tyrosinase<sup>[2]</sup>.

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**In Vitro**

2-Hydroxy-4-methoxybenzaldehyde inhibits the oxidation of L-3,4-dihydroxyphenylalanine (L-DOPA) by mushroom tyrosinase with an  $ID_{50}$  of 4.3  $\mu\text{g}/\text{mL}$  (0.03 mM)<sup>[1]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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**REFERENCES**

- [1]. Bodwell Graham, et al. An Inverse Electron-Demand Diels-Alder-Based Total Synthesis of Urolithin M7. *Synlett*. 2011 (15): 2245.
- [2]. Kubo I, et al. 2-Hydroxy-4-methoxybenzaldehyde: a potent tyrosinase inhibitor from African medicinal plants. *Planta Med*. 1999 Feb;65(1):19-22.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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