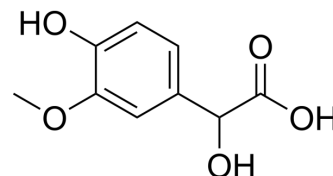


Vanillylmandelic acid

Cat. No.:	HY-113121		
CAS No.:	55-10-7		
Molecular Formula:	C ₉ H ₁₀ O ₅		
Molecular Weight:	198.17		
Target:	Endogenous Metabolite		
Pathway:	Metabolic Enzyme/Protease		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (1261.54 mM; Need ultrasonic)
 H₂O : 100 mg/mL (504.62 mM; Need ultrasonic)

	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	5.0462 mL	25.2309 mL	50.4617 mL
	5 mM	1.0092 mL	5.0462 mL	10.0923 mL
	10 mM	0.5046 mL	2.5231 mL	5.0462 mL

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

In Vivo

- Add each solvent one by one: PBS
Solubility: 25 mg/mL (126.15 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.08 mg/mL (10.50 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.08 mg/mL (10.50 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.08 mg/mL (10.50 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Vanillylmandelic acid is the endproduct of epinephrine and norepinephrine metabolism. Vanillylmandelic acid can be used as an indication of the disorder in neurotransmitter metabolism as well. Vanillylmandelic acid has antioxidant activity towards DPPH radical with an IC₅₀ value of 33 μM^[1].

IC ₅₀ & Target	Human Endogenous Metabolite	Microbial Metabolite
In Vitro	Vanillylmandelic acid has antioxidant activity, the IC ₅₀ value is determined as the amount of VMA required to reduce 50% of the starting concentration of free radical is 33×10^{-6} M in the UV-Vis decolourisation DPPH assay ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
In Vivo	Vanillylmandelic acid (intra-arterial injection over 1 min; 1, 10 and 100 mg/kg; the 60 min-observation period) produces a significant difference between vanillylmandelic acid groups and controls. Vanillylmandelic acid decreases the heart rate by 17.5%, 17.9% and 18.9% after 1, 10 and 100 mg/kg, respectively. Mean blood pressure is decreased by 13.5% in control animals as compared to 37%, 23% and 26% after 1, 10 and 100 mg/kg, respectively, in wistar rats ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

CUSTOMER VALIDATION

- Cell Rep Med. 2023 May 24;101061.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Michalis K Kolentinis, et al. Cardiovascular effects of vanillylmandelic acid in rats. Eur J Pharmacol. 2013 Mar 5;703(1-3):46-52.

[2]. Dušan Dimić, et al. Experimental and theoretical elucidation of structural and antioxidant properties of vanillylmandelic acid and its carboxylate anion. Spectrochim Acta A Mol Biomol Spectrosc. 2018 Jun 5;198:61-70.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA