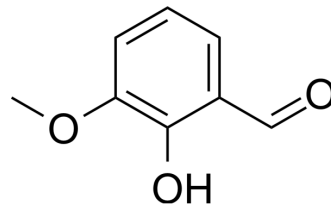


o-Vanillin

Cat. No.:	HY-Y1832
CAS No.:	148-53-8
Molecular Formula:	C ₈ H ₈ O ₃
Molecular Weight:	152.15
Target:	Fungal
Pathway:	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 : 100 mg/mL (657.25 mM; Need ultrasonic)

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.

BIOLOGICAL ACTIVITY

Description

o-Vanillin (2-Vanillin) is a nature product, could be extracted from *Vanilla planifolia*, *Pinus koraiensis* fruit. o-Vanillin is a potent antifungal agent. o-Vanillin inhibits the growth of mycelia by disrupting the integrity of cell walls and cell membranes. o-Vanillin inhibits [Doxorubicin](#) (HY-15142A)- and 4-hydroperoxycyclophosphamide-induced NF-κB activation^[1] [2].

In Vitro

o-Vanillin (2-Vanillin; 0-125 μg/mL; 24-72 h) inhibits the mycelial growth of *A. flavus* in a dose-dependent manner^[1].
 o-Vanillin (0-100 μg/mL; 48 h; *A. flavus*) changes the morphology of mycelia and induces irregular shrinkage of the mycelia^[1].
 o-Vanillin (0-100 μg/mL; *A. flavus*) decreases the protein content of the cell wall surface and the content of β-1,3-glucan^[1].
 o-Vanillin (0-100 μg/mL; *A. flavus*) destroys cell membrane integrity. o-Vanillin releases cell constituents and decreases extracellular pH value^[1].
 o-Vanillin (0-100 μg/mL) could effectively inhibit the growth of *A. flavus* on corn kernels^[1].
 o-Vanillin (0-250 μM) inhibits doxorubicin-mediated induction of NFκB activity by 65% in A375/NFκB-Luc cells. o-Vanillin suppresses 4-HC-induced activity by 43%^[2].
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

o-Vanillin (2-Vanillin; 60 mg/kg; p.o.; daily, for 5 d) inhibits tumor growth in mice bearing A375 human melanoma xenografts [2].

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

Animal Model:	Male NSG mice with A375 human melanoma xenografts (12-16 weeks of age) ^[2]
Dosage:	60 mg/kg
Administration:	Oral administration; daily, for 5 days
Result:	Delayed the growth of A375 human melanoma xenografts in immunodeficient NSG mice.

REFERENCES

[1]. Li Q, et, al. o-Vanillin, a promising antifungal agent, inhibits *Aspergillus flavus* by disrupting the integrity of cell walls and cell membranes. *Appl Microbiol Biotechnol*. 2021 Jun;105(12):5147-5158.

[2]. Marton A, et, al. Vanillin Analogues o-Vanillin and 2,4,6-Trihydroxybenzaldehyde Inhibit NF κ B Activation and Suppress Growth of A375 Human Melanoma. *Anticancer Res*. 2016 Nov;36(11):5743-5750.

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

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