o-Vanillin

Cat. No.: HY-Y1832

CAS No.: 148-53-8

Molecular Formula: $C_8H_8O_3$

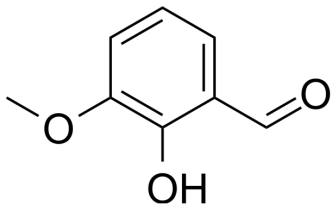
Molecular Weight: 152.15

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)

Preparing Stock Solutions	Solvent / Mass / Concentration	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 NFκB Activation and Suppress Growth of A375 Human Melanoma. Anticancer Res. 2016 Nov;36(11):5743-5750.

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