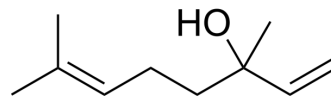


Linalool

Cat. No.:	HY-N0368												
CAS No.:	78-70-6												
Molecular Formula:	C ₁₀ H ₁₈ O												
Molecular Weight:	154.25												
Target:	iGluR; Apoptosis; Endogenous Metabolite; Bacterial; TNF Receptor												
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling; Apoptosis; Metabolic Enzyme/Protease; Anti-infection												
Storage:	<table border="0"> <tr> <td>Pure form</td> <td>-20°C</td> <td>3 years</td> </tr> <tr> <td></td> <td>4°C</td> <td>2 years</td> </tr> <tr> <td>In solvent</td> <td>-80°C</td> <td>6 months</td> </tr> <tr> <td></td> <td>-20°C</td> <td>1 month</td> </tr> </table>	Pure form	-20°C	3 years		4°C	2 years	In solvent	-80°C	6 months		-20°C	1 month
Pure form	-20°C	3 years											
	4°C	2 years											
In solvent	-80°C	6 months											
	-20°C	1 month											



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (648.30 mM; Need ultrasonic)				
		Solvent Concentration	Mass		
	Preparing Stock Solutions		1 mg	5 mg	10 mg
		1 mM	6.4830 mL	32.4149 mL	64.8298 mL
		5 mM	1.2966 mL	6.4830 mL	12.9660 mL
	10 mM	0.6483 mL	3.2415 mL	6.4830 mL	
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (16.21 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (16.21 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (16.21 mM); Clear solution 				

BIOLOGICAL ACTIVITY

Description	Linalool is a natural monoterpene which is a competitive NMDA receptor antagonist. Linalool is orally active and crosses the blood-brain barrier. Linalool has anticancer, antibacterial, anti-inflammatory, neuroprotective, anxiolytic, antidepressant, anti-stress, cardioprotective, hepatoprotective, nephroprotective and pulmonary protective activities ^{[1][2][3][4][5]} .
IC₅₀ & Target	NMDA Receptor

In Vitro

Linalool (0-2000 μ M, 24-72 h) can induce apoptosis of cancer cells (U87-MG, HepG-2, SW620 and so on) through oxidative stress while protecting normal cells PC12^[3].

Linalool (0-2000 mg/mL, 0-72 h) exerts antibacterial effects by damaging cell membranes^[3].

Linalool (0-2 mM, 24-48 h) inhibits A549 cell proliferation by inducing G0/G1 and/or G2/M cell cycle arrest, and without affecting the cell viability of normal lung WI-38 cells. Linalool inhibits A549 cell migration^[4].

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

Cell Cycle Analysis^[4]

Cell Line:	WI-38, A549
Concentration:	0-2 mM
Incubation Time:	24-48 h
Result:	Induced significant G0/G1 cell cycle arrest, accompanied by a strong reduction of S-phase cells.

In Vivo

Linalool (150, 200, 250 mg/kg orally every alternate day for 21 days) reduces tumor growth by 50% in the S-180 solid tumor mouse model, inhibits oxidation in normal liver, and promotes oxidation in tumor tissue^[5].

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

Animal Model:	Sarcoma-180 Solid Tumor Mice Model ^[5]
Dosage:	150, 200, 250 mg/kg orally every alternate day for 21 days
Administration:	p.o.
Result:	Increased antioxidant enzyme activity in normal liver tissue and decreased liver antioxidant enzyme activity in S-180 tumor carriers.

CUSTOMER VALIDATION

- Int J Mol Sci. 2023 Aug 29, 24(17), 13386.

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REFERENCES

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- [4]. Oner Z1, et al. The protective and therapeutic effects of linalool against doxorubicin-induced cardiotoxicity in Wistar albino rats. *Hum Exp Toxicol*. 2019 Apr 12;960327119842634.
- [5]. Jun HJ, et al. Linalool is a PPAR α ligand that reduces plasma TG levels and rewires the hepatic transcriptome and plasma metabolome. *J Lipid Res*. 2014 Jun;55(6):1098-110.

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

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