# Nerolidol

**Cat. No.:** HY-N1944

**CAS No.:** 7212-44-4

**Molecular Formula:** $C_{15}H_{26}O$

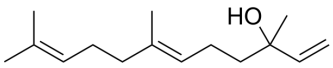
**Molecular Weight:** 222.37

**Target:** Bacterial; Fungal; Parasite; Endogenous Metabolite

**Pathway:** Anti-infection; Metabolic Enzyme/Protease

**Storage:**

| | | |
|---|---|---|
| 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 (449.70 mM; Need ultrasonic)

**Preparing Stock Solutions**

| Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 4.4970 mL | 22.4850 mL | 44.9701 mL |
| 5 mM | 0.8994 mL | 4.4970 mL | 8.9940 mL |
| 10 mM | 0.4497 mL | 2.2485 mL | 4.4970 mL |

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

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (11.24 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (11.24 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (11.24 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

Nerolidol has multiple natural membrane activities, possesses anti-cancer, anti-inflammatory, antibacterial and anti-insect activity. Nerolidol Suppresses parasitic activity, suppresses bloodsucking diseases, bloodworm diseases, and other diseases. Nerolidol can protect the cells from lipid and protein properties, damage to DNA, and protect the cells from damage[1][2][3].

**$IC_{50}$ & Target**

Human Endogenous Metabolite

| | |
|---|---|
| **In Vitro** | Nerolidol exhibits potent antioxidant properties in counterbalancing the effect of ROS by protecting the cells against oxidative damage to lipids, proteins and DNA[2].<br>Nerolidol exhibits potent antimicrobial activity against Staphylococcus aureus FDA 209P, 14 strains of methicillin-susceptible S. aureus (MSSA) and 20 strains of methicillin-resistant S. aureus (MRSA) with MIC values ranging from 512 to over 1024 μg/mL[2].<br>Nerolidol exhibits anti-biofilm activity against a number of pathogens[2].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |
| **In Vivo** | Nerolidol (0.5%–2%) also has a strong anti-fungal effect against Microsporum gypseum that causes dermatophytosis, a superficial infection in keratinized tissues including hair, nail and stratum corneum of skin[2].<br>Nerolidol (25-75 mg/kg; ip; single dose) shows neuroprotective effects in mice hippocampus against oxidative stress in neuronal cells[3].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

## CUSTOMER VALIDATION

- bioRxiv. 2023 Jun 3.

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## REFERENCES

[1]. Nerolidol, et al. In vitro antileishmanial and cytotoxic activities of nerolidol are associated with changes in plasma membrane dynamics. Biochim Biophys Acta Biomembr. 2019 Jun 1;1861(6):1049-1056.

[2]. Chan WK, et al. Nerolidol: A Sesquiterpene Alcohol with Multi-Faceted Pharmacological and Biological Activities. Molecules. 2016 Apr 28;21(5):529.

[3]. Nogueira Neto JD, et al. Antioxidant effects of nerolidol in mice hippocampus after open field test. Neurochem Res. 2013 Sep;38(9):1861-70.



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