

3-Carene

Chemical Properties

CAS No. : 13466-78-9

Formula: C₁₀H₁₆

Molecular Weight: 136.23

Storage: Pure form: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	3-Carene(Delta-3-Carene) is a bicyclic monoterpene extracted from western larch and Douglas-fir that acts as a phytofungicide.3-Carene inhibits inflammatory infiltrates and COX-2 overexpression induced by nociceptive stimuli.3-Carene has anti-injury properties and promotes the activity and expression of alkaline phosphatase, an early marker of osteoblast differentiation.
Targets(IC50)	Antifungal,COX
In vitro	Rat alveolar macrophages were incubated with the monoterpene 3-Carene (0, 0.005, 0.05, 0.5, and 5.0 μM; 75 min; Rat alveolar macrophages) in culture medium for 75 min. A dose-dependent relationship was found between the cell viability and the 3-Carene concentration. At 5.0 μM 3-Carene, 98% of the AM were dead. The phagocytosis of heat-killed yeast particles was significantly decreased and the attachment of particles to the cell surface significantly increased at 0.5 μM 3-Carene. Electron microscopy showed that about 50% of the AM lacked or had very few surface protrusions after incubation in 0.5 μM 3-Carene. Thus, 3-Carene seemed to affect mainly the engulfment of particles. Surfactant, 0.5 mg/ml as Curosurf, added to the incubation medium, did not affect the AM reaction to 3-Carene exposure.[1]

Solubility Information

Solubility	DMSO: 50 mg/mL (367.03 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 2.5 mg/mL (18.35 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	7.3405 mL	36.7026 mL	73.4053 mL
5 mM	1.4681 mL	7.3405 mL	14.6811 mL
10 mM	0.7341 mL	3.6703 mL	7.3405 mL
50 mM	0.1468 mL	0.7341 mL	1.4681 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Johansson A, et al. Effects of low concentrations of 3-carene on alveolar macrophages in vitro. *Toxicology*. 1997 Jun 27;120(2):99-104.

Jeong JG, et al. Low concentration of 3-carene stimulates the differentiation of mouse osteoblastic MC3T3-E1 subclone 4 cells. *Phytother Res*. 2008 Jan;22(1):18-22.

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