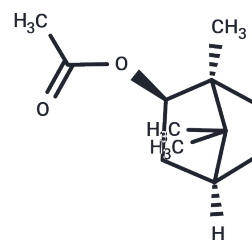


(-)-Bornyl acetate

Chemical Properties

CAS No. :	5655-61-8
Formula:	C ₁₂ H ₂₀ O ₂
Molecular Weight:	196.29
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



Biological Description

Description	(-)-Bornyl acetate (L-(-)-Bornyl acetate) is a less active enantiomer of (+)-Bornyl acetate. Isolated from hyssop oil, it possesses antifungal, highly active whitening, and antioxidant properties, and it has potential applications in cosmeceutical materials. It downregulates proinflammatory cytokines in vitro and in vivo, reduces the number of total cells, neutrophils, and macrophages in BALF, attenuates histologic lung alterations, decreases the wet-to-dry weight ratio in BALF, and inhibits the activation of NF-kappa-B inhibitor alpha, extracellular regulated protein kinases, c-JunN-terminal kinase, and p38 mitogen-activated protein kinase.
Targets(IC50)	NF-κB,Antifungal,JNK,p38 MAPK
In vitro	Seedlings exposed to (-)-bornyl acetate exhibited notably longer roots than those treated with (-)-bornyl acetate. Additionally, when (-)-bornyl acetate (L-bornyl acetate) was singularly applied to barley seedlings, it effectively decreased the incidence of powdery mildew infection in comparison to control groups devoid of the compound.

Solubility Information

Solubility	DMSO: 65 mg/mL (331.14 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (10.19 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	5.0945 mL	25.4725 mL	50.945 mL
5 mM	1.0189 mL	5.0945 mL	10.189 mL
10 mM	0.5095 mL	2.5473 mL	5.0945 mL
50 mM	0.1019 mL	0.5095 mL	1.0189 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

- Chen N, et al. Inhibition of lung inflammatory responses by bornyl acetate is correlated with regulation of myeloperoxidase activity. *J Surg Res.* 2014 Jan;186(1):436-4
- Jun-Ichiro Horiuchi, et al. Exposing Arabidopsis seedlings to borneol and bornyl acetate affects root growth: Specificity due to the chemical and optical structures of the compounds. *Journal of Plant Interactions Volume 2, 2007 - Issue 2.*
- M. P. LETESSIER ETESSIE, et al. Antifungal Activity of the Essential Oil of Hyssop (*Hyssopus officinalis*). *J. Phytopathology* 149, 673±678 (2001).

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