

(+)- δ -Cadinene**Chemical Properties**

CAS No. :	483-76-1
Formula:	C ₁₅ H ₂₄
Molecular Weight:	204.351
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>

Biological Description

Description	(+)- δ -Cadinene is a sesquiterpene from <i>G. hirsutum</i> with antibacterial, insecticidal, anticancer and antiproliferative activities. It showed a MIC value of 31.25 μ g/ml against <i>S. pneumoniae</i> and LC50s values of 8.23, 9. 2 and 3 against third instar larvae of <i>A. stephensi</i> , <i>A. aegypti</i> and <i>C. quinquefasciatus</i> , respectively.(+)- δ -Cadinene (10, 50 and 100 μ M) induced apoptosis and inhibited the growth of OVCAR-3 human ovarian cancer cells apoptosis and inhibited their proliferation.
Targets(IC50)	Apoptosis, Antibacterial, Parasite, Antifungal

Solubility Information

Solubility	DMF: 30.00 mg/mL (146.81 mM), Sonication is recommended. PBS (pH 7.2): 1.00 mg/mL (4.89 mM), Sonication is recommended. Ethanol: 30.00 mg/mL (146.81 mM), Sonication is recommended. DMSO: 30.00 mg/mL (146.81 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: 2.00 mg/mL (9.79 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	4.8936 mL	24.4678 mL	48.9356 mL
5 mM	0.9787 mL	4.8936 mL	9.7871 mL
10 mM	0.4894 mL	2.4468 mL	4.8936 mL
50 mM	0.0979 mL	0.4894 mL	0.9787 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

Meng YL, et al. Coordinated accumulation of (+)-delta-cadinene synthase mRNAs and gossypol in developing seeds of *Gossypium hirsutum* and a new member of the cad1 family from *G. arboreum*. *J Nat Prod.* 1999;62(2): 248-252.

Yoshikuni Y, et al. Engineering cotton (+)-delta-cadinene synthase to an altered function: germacrene D-4-ol synthase. *Chem Biol.* 2006;13(1):91-98.

Tan XP, et al. Expression pattern of (+)-delta-cadinene synthase genes and biosynthesis of sesquiterpene aldehydes in plants of *Gossypium arboreum* L. *Planta.* 2000;210(4):644-651.

Chen XY, et al. Cloning and heterologous expression of a second (+)-delta-cadinene synthase from *Gossypium arboreum*. *J Nat Prod.* 1996;59(10):944-951.

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481