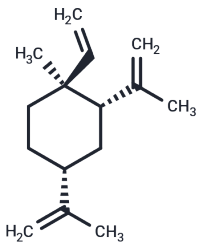
Data Sheet (Cat.No.T13476)

TargetMol

β-Elemene

Chemical Properties



CAS No. : 515-13-9

Formula: C15H24

Molecular Weight: 204.35

Storage: Store under nitrogen
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	β-Elemene (Levo-β-elemene) is a natural product isolated from Curcuma wenyujin, with an antitumor activity and induce cell apoptosis.
Targets(IC50)	Apoptosis
In vitro	β-Elemene significantly inhibited the metastatic capacity of MDR gastric cells in vivo and in vitro.?Mechanistically, β-Elemene regulated MMP-2/9 expression and reversed epithelial-mesenchymal transition.?β-Elemene upregulated Cbl-b expression, resulting in inhibition of the EGFR-ERK/AKT pathways, which regulate MMP-2/9.?β-Elemene upregulated Cbl-b by inhibiting miR-1323 expression.?Numbers of metastatic tumor nodules were significantly decreased in the lungs of nude mice after β-Elemene treatment.?β-Elemene inhibits the metastasis of MDR gastric cancer cells by modulating the miR-1323/Cbl-b/EGFR signaling axis[3].
Cell Research	Cell viability assay was used to assess the resistance of SGC7901/ADR cells and the cytotoxic effects of β-Elemene.?Wound healing, transwell assay and lung metastatic mice model were used to the anti-metastasis effects of β-Elemene.?MicroRNA microarray analysis was used to explore potential regulated miRNAs.?Luciferase reporter assay was used to identify the direct target.?Human MMP antibody array, western blot, immunoprecipitation, qRT-PCR analyses and immunohistochemistry were conducted to investigate the underlying anti-metastasis mechanism of β-Elemene[3].

Solubility Information

Solubility	DMSO: 55 mg/mL (269.15 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 (9.79 mM),Sonication is recommended. *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.*

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

Ross, S.A., and ElSohly, M.A. The volatile oil composition of fresh and air-dried buds of Cannabis sativa. J. Nat. Prod. 59(1), 49-51 (1996).
Wang J, Qian C, Chen Y, et al.β-elemene alleviates hyperglycemia-induced cardiac inflammation and remodeling by inhibiting the JAK/STAT3-NF-κB pathway.Phytomedicine.2023: 154987.
Gan D, et al. β-elemene enhances cisplatin-induced apoptosis in bladder cancer cells through the ROS-AMPK signaling pathway.Oncol Lett. 2020 Jan;19(1):291-300.
Fu Z, Liu H, Kuang Y, et al.β-elemene, a sesquiterpene constituent from Curcuma phaeocaulis inhibits the development of endometriosis by inducing ferroptosis via the MAPK and STAT3 signaling pathways.Journal of Ethnopharmacology.2025: 119344.