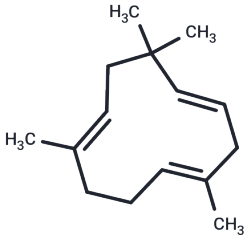
Data Sheet (Cat.No.TN1373)

TargetMol

α-Humulene

Chemical Properties



CAS No. : 6753-98-6

Formula: C15H24

Molecular Weight: 204.35

Storage: Store at low temperature,Keep away from moisture
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	α-Humulene (Alpha-caryophyllene) is extracted from S.officinalis essential oil.α-Humulene can inhibit tumor cell growth.α-Humulene also shows anti-inflammatory effects, probably by interfering with TNFalpha production and COX-2 and iNOS expression.
Targets(IC50)	NOS,NO Synthase,COX,TNF
In vitro	S. officinalis essential oil was obtained by hydrodistillation and fractionated with column chromatography; the essential oil and its fractions were analyzed by gas chromatography (GC) coupled to mass spectrometry (MS). The cytotoxic activity was evaluated in cellular lines of breast cancer MCF-7, colon cancer HCT-116, and murine macrophage RAW264.7 cell lines by the MTT assay Results: the sub-subfraction F1.1.1 of S. officinalis essential oil containing alpha-humulene present highest activity on RAW264.7 and HCT-116 with IC(50) values of 41.9 and 77.3 mu g/ml, respectively. The sub-subfraction F1.2.1 of S. officinalis essential oil with trans-caryophyllene(Alpha-caryophyllene) showed less activity on RAW246.7 and HCT-116 with IC(50) values of 90.5 and 145.8 mu g/ml.

Solubility Information

Solubility	Ether: Soluble DMSO: 50 mg/mL (244.68 mM),Sonication is recommended. Ethanol: Soluble (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2.5 mg/mL (12.23 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

Á. Río, J. Sanz, et al. Cytotoxic activity of alpha-humulene and trans-caryophyllene from Salvia officinalis in animal and human tumor cells. An. Real Acad. F., 2010, 76(3):343-56.
Coté H, et al. Anti-Inflammatory, Antioxidant, Antibiotic, and Cytotoxic Activities of Tanacetum vulgare L. Essential Oil and Its Constituents. Medicines (Basel). 2017 May 25;4(2):34.