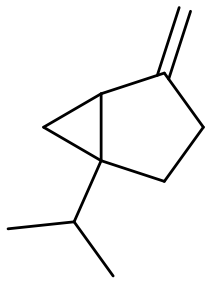
Product data sheet

MedKoo Cat#: 584638 Name: Sabinene CAS#: 3387-41-5 Chemical Formula: $C_{10}H_{16}$ Exact Mass: 136.1252 Molecular Weight: 136.24	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
Sabinene is a bicyclic monoterpene found in a variety of plants that has antifungal and anti-inflammatory properties.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	20	146.80
DMSO	20	146.80
Ethanol	20	146.80

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	7.34 mL	36.70 mL	73.40 mL
5 mM	1.47 mL	7.34 mL	14.68 mL
10 mM	0.73 mL	3.67 mL	7.34 mL
50 mM	0.15 mL	0.73 mL	1.47 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Valente J, Zuzarte M, Gonçalves MJ, Lopes MC, Cavaleiro C, Salgueiro L, Cruz MT. Antifungal, antioxidant and anti-inflammatory activities of Oenanthe crocata L. essential oil. Food Chem Toxicol. 2013 Dec;62:349-54. doi: 10.1016/j.fct.2013.08.083. Epub 2013 Sep 5. PMID: 24012643.
2. Cao Y, Zhang H, Liu H, Liu W, Zhang R, Xian M, Liu H. Biosynthesis and production of sabinene: current state and perspectives. Appl Microbiol Biotechnol. 2018 Feb;102(4):1535-1544. doi: 10.1007/s00253-017-8695-5. Epub 2017 Dec 20. PMID: 29264773.

In vivo study

1. Ryu Y, Lee D, Jung SH, Lee KJ, Jin H, Kim SJ, Lee HM, Kim B, Won KJ. Sabinene Prevents Skeletal Muscle Atrophy by Inhibiting the MAPK-MuRF-1 Pathway in Rats. Int J Mol Sci. 2019 Oct 8;20(19):4955. doi: 10.3390/ijms20194955. PMID: 31597276; PMCID: PMC6801606.

7. Bioactivity
Biological target:

Sabinene has antifungal and anti-inflammatory properties. It inhibits the growth of various fungi in vitro, including several species of Candida, Trichophyton, and Aspergillus (MICs = 0.16-5 µl/ml). Sabinene prevents increases in nitrite production in RAW 264.7

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macrophages stimulated by LPS and IFN-γ. It is cytotoxic to RAW 264.7 macrophages and HaCat keratinocytes when used at a concentration of 1.25 μl/ml. Formulations containing sabinene have been used as perfume additives.

In vitro activity

Sabinene may have potential for therapeutic applications in managing dermatophytosis and inflammatory-related diseases. Sabinene exhibited significant antifungal activity against dermatophytes and Cryptococcus neoformans.Sabinene demonstrated strong anti-inflammatory effects by inhibiting NO production in macrophages stimulated with lipopolysaccharide and interferon gamma. It also exhibited NO scavenging properties and inhibited inducible NO synthase expression.

Reference: Food Chem Toxicol. 2013 Dec;62:349-54. https://pubmed.ncbi.nlm.nih.gov/24012643/

In vivo activity

Sabinene has potential for mitigating muscle atrophy by modulating ROS-mediated MAPK/MuRF-1 pathways, potentially leading to the restoration of muscle fiber size in fasted rats.Sabinene treatment led to a reduction in muscle fiber atrophy and a decrease in the expression of E3 ubiquitin ligase muscle ring-finger protein-1 (MuRF-1) in the gastrocnemius muscle of fasted rats.

Reference: Int J Mol Sci. 2019 Oct 8;20(19):4955. https://pubmed.ncbi.nlm.nih.gov/31597276/