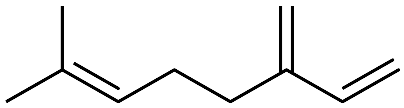
Product data sheet

MedKoo Cat#: 591690 Name: Myrcene CAS: 123-35-3 Chemical Formula: $C_{10}H_{16}$ Exact Mass: 136.1252 Molecular Weight: 136.238	
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:
Myrcene, or β-myrcene, is an olefinic natural organic hydrocarbon. It is more precisely classified as a monoterpene

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
DMSO	100.0	734.01
Ethanol	100.0	734.01

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	7.34 mL	36.70 mL	73.41 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. Azimullah S, Jayaraj RL, Meeran MFN, Jalal FY, Adem A, Ojha S, Beiram R. Myrcene Salvages Rotenone-Induced Loss of Dopaminergic Neurons by Inhibiting Oxidative Stress, Inflammation, Apoptosis, and Autophagy. Molecules. 2023 Jan 10;28(2):685. doi: 10.3390/molecules28020685. PMID: 36677744; PMCID: PMC9863310.

2. Hwang E, Ngo HTT, Park B, Seo SA, Yang JE, Yi TH. Myrcene, an Aromatic Volatile Compound, Ameliorates Human Skin Extrinsic Aging via Regulation of MMPs Production. Am J Chin Med. 2017;45(5):1113-1124. doi: 10.1142/S0192415X17500604. Epub 2017 Jun 28. PMID: 28659037.

In vivo study

1. Almarzooqi S, Venkataraman B, Raj V, Alkuwaiti SAA, Das KM, Collin PD, Adrian TE, Subramanya SB. β-Myrcene Mitigates Colon Inflammation by Inhibiting MAP Kinase and NF-κB Signaling Pathways. Molecules. 2022 Dec 9;27(24):8744. doi: 10.3390/molecules27248744. PMID: 36557879; PMCID: PMC9782154.

2. Hu F, Zhou X, Jiang Y, Huang X, Sheng S, Li D. Effect of Myrcene on Th17/Treg Balance and Endocrine Function in Autoimmune Premature Ovarian Insufficiency Mice through the MAPK Signaling Pathway. Protein Pept Lett. 2022;29(11):954-961. doi: 10.2174/0929866529666220822100604. PMID: 35996268.

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7. Bioactivity

Biological target:

Myrcene (β-Myrcene), an aromatic volatile compound, suppresses TNFα-induced NF-κB activity.

In vitro activity

Given the worldwide interest in natural antiphotoaging products, this study investigated the protective effects of myrcene in UVB-irradiated human dermal fibroblasts (NHDFs). This study showed that myrcene decreased the production of ROS, MMP-1, MMP-3, and IL-6, and increased TGF-1 and type I procollagen secretions. Furthermore, myrcene treatment (0.1-10M) dramatically reduced the activation of MAPK-related signaling molecules such as p-ERK, p-p38, and p-JNK and AP-1 including p-c-Jun and p-c-Fos.

Reference: Am J Chin Med. 2017;45(5):1113-1124. https://pubmed.ncbi.nlm.nih.gov/28659037/

In vivo activity

This study investigated the role of β-myrcene on colon inflammation to explore its molecular targets. The result indicated that the administration of β-myrcene in dextran sodium sulfate (DSS)-treated mice restored colon length, decreased disease activity index (DAI), myeloperoxidase (MPO) enzyme activity and suppressed proinflammatory mediators. β-myrcene administration suppressed mitogen-activated protein kinases (MAPKs) and nuclear factor-κB (NF-κB) pathways to limit inflammation. β-myrcene also suppressed mRNA expression of proinflammatory chemokines in tumor necrosis factor-α (TNF-α) challenged HT-29 adenocarcinoma cells.

Reference: Molecules. 2022 Dec 9;27(24):8744. https://pubmed.ncbi.nlm.nih.gov/36557879/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.