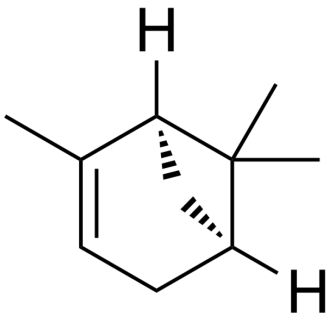
(-)-α-Pinene



Cat. No.: HY-N0549

CAS No.: 7785-26-4

Molecular Formula: $C_{10}H_{16}$

Molecular Weight: 136.23

Target: GABA Receptor; Bacterial; Virus Protease; Endogenous Metabolite

Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling; Anti-infection; Metabolic Enzyme/Protease

Storage:

Pure form	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month

SOLVENT & SOLUBILITY

In Vitro

DMSO : 60 mg/mL (440.43 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	7.3405 mL	36.7026 mL	73.4053 mL
	5 mM	1.4681 mL	7.3405 mL	14.6811 mL
	10 mM	0.7341 mL	3.6703 mL	7.3405 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 1 mg/mL (7.34 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1 mg/mL (7.34 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1 mg/mL (7.34 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

(-)-α-Pinene is a monoterpene and shows sleep enhancing property through a direct binding to GABAA-benzodiazepine (BZD) receptors by acting as a partial modulator at the BZD binding site[1].

In Vitro

(-)-α-pinene enhances the quantity of non-rapid eye movement sleep (NREMS) without affecting the intensity of NREMS by prolonging GABAergic synaptic transmission, acting as a partial modulator of GABAA-BZD receptors and directly binding to the BZD binding site of GABAA receptor[1].

	MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Yang H, et al. α-Pinene, a Major Constituent of Pine Tree Oils, Enhances Non-Rapid Eye Movement Sleep in Micethrough GABAA-benzodiazepine Receptors.

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