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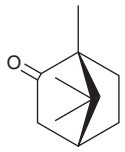
PRODUCT INFORMATION

(1R)-(+)-Camphor

Item No. 23175

CAS Registry No.: 464-49-3
Formal Name: (1R,4R)-1,7,7-trimethyl-bicyclo[2.2.1]heptan-2-one
Synonyms: (+)-Camphor, (R)-Camphor
MF: $C_{10}H_{16}O$
FW: 152.2
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

(1R)-(+)-Camphor is supplied as a solid. A stock solution may be made by dissolving the (1R)-(+)-camphor in water. The solubility of (1R)-(+)-camphor in water is approximately 1.2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

(1R)-(+)-Camphor is a terpene that has been found in *C. sativa*, *C. indica*, and *C. sativa*/*C. indica* hybrid strains as well as the essential oils from a variety of herbs including rosemary, lavender, and sage and has diverse biological activities.[1-6] It inhibits norepinephrine secretion and cytosolic calcium and sodium increases induced by the nicotinic acetylcholine receptor (nAChR) agonist 1,1-dimethyl-4-phenylpiperazinium iodide (DMPP) in chromaffin cells (IC_{50}s = 70, 88, and 19 µM, respectively).[2] (1R)-(+)-Camphor (65-260 µM) induces proliferation of and increases expression of collagen IA, collagen IIIA, collagen IVA, and elastin in human primary dermal fibroblasts.[3] *In vivo*, (1R)-(+)-camphor increases expression of collagen IA, collagen IIIA, collagen IVA, and elastin in skin in UV-exposed mice when administered at doses of 26 and 55 mM in drinking water post UV-exposure. It reduces cough frequency in citric acid-challenged guinea pigs.[4] (1R)-(+)-Camphor is insecticidal, reducing digging activity and inducing mortality of fire ant workers.[5] It has also been used as a building block in the synthesis of cannabinergic ligands.[6]

References

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2. Park, T.-J., Seo, H.-K., Kang, B.-J., *et al.* Noncompetitive inhibition by camphor of nicotinic acetylcholine receptors. *Biochem. Pharmacol.* **61(7)**, 787-793 (2001).
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5. Zhang, N., Tang, L., Hu, W., *et al.* Insecticidal, fumigant, and repellent activities of sweet wormwood oil and its individual components against red imported fire ant workers (Hymenoptera: Formicidae). *J. Insect Sci.* **14(1)**, pii:241 (2014).
6. Lu, D., Guo, J., Duclos, R.I., Jr., *et al.* Bornyl- and isobornyl-Δ^8-tetrahydrocannabinols: A novel class of cannabinergic ligands. *J. Med. Chem.* **51(20)**, 6393-6399 (2008).

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