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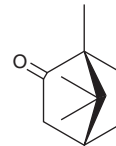
PRODUCT INFORMATION



(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: C₁₀H₁₆O
FW: 152.2
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 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 (IC₅₀s = 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).
3. Tran, T.A., Ho, M.T., Song, Y.W., *et al.* Camphor induces proliferative and anti-senescence activities in human primary dermal fibroblasts and inhibits UV-induced wrinkle formation in mouse skin. *Phytother. Res.* **29(12)**, 1917-1925 (2015).
4. Laude, E.A., Morice, A.H., and Grattan, T.J. The antitussive effects of menthol, camphor and cineole in conscious guinea-pigs. *Pulm. Pharmacol.* **7(3)**, 179-184 (1994).
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-Δ⁸-tetrahydrocannabinols: A novel class of cannabinergic ligands. *J. Med. Chem.* **51(20)**, 6393-6399 (2008).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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