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Produktinformation



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Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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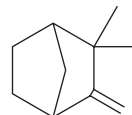
PRODUCT INFORMATION



(±)-Camphene

Item No. 24478

CAS Registry No.: 79-92-5
Formal Name: 2,2-dimethyl-3-methylene-bicyclo[2.2.1]heptane
Synonyms: DL-Camphene, NSC 4165
MF: C₁₀H₁₆
FW: 136.2
Purity: ≥97%
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

(±)-Camphene is supplied as a solid. A stock solution may be made by dissolving the (±)-camphene in the solvent of choice, which should be purged with an inert gas. (±)-Camphene is soluble in chloroform and slightly soluble in ethanol.

Description

(±)-Camphene is a bicyclic monoterpene found in a variety of plants, including *Cannabis*, that has diverse biological activities, including antiproliferative, pro-apoptotic, hypolipidemic, and insecticidal properties.¹⁻⁵ It inhibits proliferation of B16/F10-Nex2 mouse melanoma, as well as human A2058 melanoma, HL-60 leukemia, U87MG glioblastoma, and SK-BR-3 breast cancer cells (IC₅₀s = 71.2, 35.2, 27, 55.4, and 34.7 µg/ml, respectively).² (±)-Camphene (70 µg/ml) increases caspase-3 activity and induces apoptosis and endoplasmic reticulum stress in B16/F10-Nex2 cells. It lowers plasma levels of total cholesterol, LDL cholesterol, and triglycerides (TGs) in a Triton WR-1339-induced rat model of hyperlipidemia when administered at a dose of 1.5 µg/g.³ Dietary administration of (±)-camphene (0.2%) also inhibits hepatic steatosis and insulin resistance in a mouse model of high-fat diet-induced obesity.⁴ It also has larvicidal activity against third instar *H. armigera* larvae (LC₅₀ = 10.64 µg/ml) and ovicidal activity against *H. armigera* eggs (EC₅₀ = 35.39 µg/ml).⁵ Formulations containing (±)-camphene have been used as perfume and food additives.

References

1. Elzinga, S., Fishedick, J., Podkolinski, R., *et al.* Cannabinoids and terpenes as chemotaxonomic markers in *Cannabis*. *Nat. Prod. Chem. Res.* **3**(4), 181 (2015).
2. Girola, N., Figueiredo, C.R., Farias, C.F., *et al.* Camphene isolated from essential oil of *Piper cernuum* (Piperaceae) induces intrinsic apoptosis in melanoma cells and displays antitumor activity *in vivo*. *Biochem. Biophys. Res. Commun.* **467**(4), 928-934 (2015).
3. Vallianou, I., Peroulis, N., Pantazis, P., *et al.* Camphene, a plant-derived monoterpene, reduces plasma cholesterol and triglycerides in hyperlipidemic rats independently of HMG-CoA reductase activity. *PLoS One* **6**(11), e20516 (2011).
4. Kim, S., Choi, Y., Choi, S., *et al.* Dietary camphene attenuates hepatic steatosis and insulin resistance in mice. *Obesity (Silver Spring)* **22**(2), 408-417 (2014).
5. Benelli, G., Govindarajan, M., Rajeswary, M., *et al.* Insecticidal activity of camphene, zerumbone and α-humulene from *Cheilocostus speciosus* rhizome essential oil against the Old-World bollworm, *Helicoverpa armigera*. *Ecotoxicol. Environ. Saf.* **148**, 781-786 (2018).

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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