

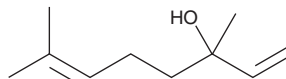
PRODUCT INFORMATION



(±)-Linalool

Item No. 21575

CAS Registry No.: 78-70-6
Formal Name: 3,7-dimethyl-1,6-octadien-3-ol
Synonyms: dl-Linalool, NSC 3789
MF: $C_{10}H_{18}O$
FW: 154.3
Purity: $\geq 98\%$
Supplied as: A liquid
Storage: Room temperature
Stability: ≥ 4 years



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

Laboratory Procedures

(±)-Linalool is supplied as a liquid. (±)-Linalool is soluble in water at a concentration of approximately 1.6 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

(±)-Linalool is a monoterpene alcohol that has been found in *C. sativa*, *C. indica*, and hemp with diverse biological activities.¹⁻⁶ It induces cell cycle arrest at the G₀/G₁ and G₂M phase in U937 and HeLa cells, respectively.² (±)-Linalool is cytotoxic to U937 and HeLa cells (IC₅₀s = 2.59 and 11.02 μ M, respectively). It induces recruitment of a PGC-1 α coactivator peptide to the PPAR α ligand binding domain (EC₅₀ = 5.45 μ M in a TR-FRET assay).³ *In vivo*, (±)-linalool reduces plasma triglyceride concentration in mice fed a Western diet and transgenic mice expressing human ApoE2, but not PPAR α ^{-/-} mice. It has molluscicidal and larvicidal effects *in vitro* (LC₅₀s = 0.25 and 0.07 mg/L for *O. hupensis* and *S. japonicum*, respectively), and it reduces the amount of schistosomulum recovered from mouse skin after *S. japonicum* challenge infection.⁴ (±)-Linalool (10-40 mg/kg) reduces the number of macrophages and neutrophils and the production of TNF- α , IL-6, IL-1 β , IL-8, and MCP-1 in bronchoalveolar lavage fluid (BALF) in a mouse model of cigarette smoke-induced acute lung inflammation.⁵ It also decreases immobility time in the forced swim test in mice, indicating antidepressant-like activity.⁶

References

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3. Jun, H.J., Lee, J.H., Kim, J., *et al.* Linalool is a PPAR α ligand that reduces plasma TG levels and rewires the hepatic transcriptome and plasma metabolome. *J. Lipid. Res.* **55**(6), 1098-1110 (2014).
4. Yang, F., Long, E., Wen, J., *et al.* Linalool, derived from *Cinnamomum camphora* (L.) Presl leaf extracts, possesses molluscicidal activity against *Oncomelania hupensis* and inhibits infection of *Schistosoma japonicum*. *Parasit. Vectors* **7**, 407 (2014).
5. Jianqun, M., Hai, X., Wu, J., *et al.* Linalool inhibits cigarette smoke-induced lung inflammation by inhibiting NF- κ B activation. *Int. Immunopharmacol.* **29**(2), 708-713 (2015).
6. Guzmán-Gutiérrez, S.L., Bonilla-Jaime, H., Gómez-Cansino, R., *et al.* Linalool and β -pinene exert their antidepressant-like activity through the monoaminergic pathway. *Life Sci.* **128**, 24-29 (2015).

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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