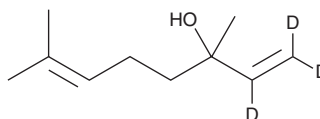


PRODUCT INFORMATION



(±)-Linalool-d₃ Item No. 9004273

CAS Registry No.: 1216673-02-7
Formal Name: 3,7-dimethyl-1,6-octadien-1,1,2-d₃-3-ol
Synonym: dl-Linalool-d₃
MF: C₁₀H₁₅D₃O
FW: 157.3
Chemical Purity: ≥95% ((±)-Linalool)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₃); ≤1% d₀
Supplied as: A neat oil
Storage: -20°C
Stability: ≥4 years
Item Origin: Synthetic



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

Laboratory Procedures

(±)-Linalool-d₃ is intended for use as an internal standard for the quantification of (±)-linalool (Item No. 21575) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

(±)-Linalool-d₃ is supplied as a solution in chloroform. To change the solvent, simply evaporate the chloroform under a gentle stream of nitrogen and immediately add the solvent of choice. (±)-Linalool-d₃ is slightly soluble in chloroform, ethyl acetate, and methanol.

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 μM, respectively). It induces recruitment of a PGC-1α coactivator peptide to the PPARα ligand binding domain (EC₅₀ = 5.45 μM 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 PPARα^{-/-} 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, as well as the production of TNF-α, IL-6, IL-1β, 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

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 07/24/2023

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION



References

1. Hazekamp, A., Tejkalová, K., and Papadimitriou, S. *Cannabis*: From cultivar to chemovar II—A metabolomics approach to *Cannabis* classification. *Cannabis Cannabinoid Res.* **1(1)**, 202-215 (2016).
2. Ständer, S., Ständer, H., Seeliger, S., *et al.* Topical pimecrolimus and tacrolimus transiently induce neuropeptide release and mast cell degranulation in murine skin. *Br. J. Dermatol.* **156(5)**, 1020-1026 (2007).
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).

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM