

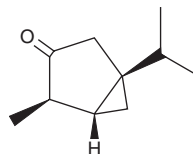
PRODUCT INFORMATION



(-)- α -Thujone

Item No. 39792

CAS Registry No.: 546-80-5
Formal Name: (1S,4R,5R)-4-methyl-1-(1-methylethyl)-bicyclo[3.1.0]
hexan-3-one
Synonyms: Thujone, NSC 93742
MF: $C_{10}H_{16}O$
FW: 152.2
Purity: $\geq 95\%$
Supplied as: A liquid
Storage: $-20^{\circ}C$
Stability: ≥ 4 years
Item Origin: Plant/Unidentified sp.



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

Laboratory Procedures

(-)- α -Thujone is supplied as a liquid. A stock solution may be made by dissolving the (-)- α -thujone in the solvent of choice, which should be purged with an inert gas. (-)- α -Thujone is soluble in methanol.

Description

(-)- α -Thujone is a monoterpene ketone and a major component of absinthe and has diverse biological activities.¹⁻⁴ It inhibits currents induced by acetylcholine (ACh) in *Xenopus* oocytes expressing human $\alpha 7$ nicotinic acetylcholine receptors (nAChRs; $IC_{50} = 27 \mu M$).¹ (-)- α -Thujone (100 and 300 μM) reduces GABA-induced current amplitude in HEK293 cells expressing $\alpha 1\beta 2\delta$ subunit-containing GABA receptors.² It reduces levels of the Norovirus surrogates feline calicivirus-F9 (FCV-F9) and murine norovirus 1 (MNV-1) in a plaque formation assay when used at a concentration of 25 mM.³ *In vivo*, (-)- α -thujone (1.25 mg/kg, i.p.) impairs nicotine-induced enhancement of long-term potentiation in the dentate gyrus, a marker of learning and memory, in rats.¹ It also inhibits lung metastasis and increases survival in a B16/F10 murine melanoma model when administered at a dose of 1 mg/kg.⁴

References

1. Sultan, A., Yang, K.S., Isaev, D., *et al.* Thujone inhibits the function of $\alpha 7$ -nicotinic acetylcholine receptors and impairs nicotine-induced memory enhancement in one-trial passive avoidance paradigm. *Toxicology* **384**, 23-32 (2017).
2. Czyzewska, M.M. and Mozrzymas, J.W. Monoterpene α -thujone exerts a differential inhibitory action on GABA_A receptors implicated in phasic and tonic GABAergic inhibition. *Eur. J. Pharmacol.* **702**(1-3), 38-43 (2013).
3. Chung, M.S. Antiviral activities of *Artemisia princeps* var. *orientalis* essential oil and its α -thujone against norovirus surrogates. *Food Sci. Biotechnol.* **26**(5), 1457-1461 (2017).
4. Siveen, K.S. and Kuttan, G. Thujone inhibits lung metastasis induced by B16F-10 melanoma cells in C57BL/6 mice. *Can. J. Physiol. Pharmacol.* **89**(10), 89(10) (2011).

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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