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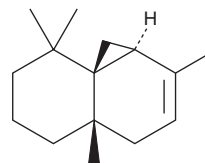
PRODUCT INFORMATION



Thujopsene

Item No. 35270

CAS Registry No.: 470-40-6
Formal Name: (1aS,4aS,8aS)-1,1a,4,4a,5,6,7,8-octahydro-2,4a,8,8-tetramethyl-cyclopropa[d]naphthalene
Synonyms: NSC 44707, *cis*-(-)-Thujopsene
MF: C₁₅H₂₄
FW: 204.4
Purity: ≥85%
Supplied as: A solution in dichloromethane
Storage: -20°C
Stability: ≥2 years
Item Origin: Synthetic



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

Laboratory Procedures

Thujopsene 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. Thujopsene is slightly soluble in dichloromethane.

Description

Thujopsene is a sesquiterpene that has been found in *T. dolabrata* and has diverse biological activities.¹⁻⁵ It inhibits the Na⁺/K⁺-ATPase (IC₅₀ = 25.9 µg/ml) and cytochrome P450 (CYP) isoform CYP2B6 (K_i = 0.8 µM).^{1,2} Thujopsene is active against Gram-positive and Gram-negative bacteria, including *S. aureus*, *M. luteus*, and *S. typhimurium* (MICs = 25-50 µg/ml).¹ It inhibits antigen-induced β-hexosaminidase release from IgE-sensitized RBL-2H3 mast cells (IC₅₀ = 25.1 µM) and is cytotoxic to A549 non-small cell lung cancer (NSCLC) cells with an LC₅₀ value of 35.27 µg/ml.^{3,4} Thujopsene induces mortality in the mites *D. farinae* and *T. putrescentiae* (LC₅₀s = 9.82 and 10.92 µg/cm², respectively).⁵

References

1. Oh, I., Yang, W.-Y., Park, J., *et al.* *In vitro* Na⁺/K⁺-ATPase inhibitory activity and antimicrobial activity of sesquiterpenes isolated from *Thujopsis dolabrata*. *Arch. Pharm. Res.* **34**(12), 2141-2147 (2011).
2. Jeong, H.U., Kwon, S.S., Kong, T.Y., *et al.* Inhibitory effects of cedrol, β-cedrene, and thujopsene on cytochrome P450 enzyme activities in human liver microsomes. *J. Toxicol. Environ. Health A.* **77**(22-24), 1522-1532 (2014).
3. Kim, C.-H., Lee, T., Oh, I., *et al.* Mast cell stabilizing effect of (-)-Elema-1,3,11(13)-trien-12-ol and thujopsene from *Thujopsis dolabrata* is mediated by down-regulation of interleukin-4 secretion in antigen-induced RBL-2H3 cells. *Biol. Pharm. Bull.* **36**(3), 339-345 (2013).
4. Bordoloi, M., Saikia, S., Kolita, B., *et al.* Volatile inhibitors of phosphatidylinositol-3-kinase (PI3K) pathway: Anticancer potential of aroma compounds of plant essential oils. *Anticancer Agents Med. Chem.* **18**(1), 87-109 (2018).
5. Kim, J.-R., Perumalsamy, H., Kwon, M.J., *et al.* Toxicity of hiba oil constituents and spray formulations to American house dust mites and copra mites. *Pest Manag. Sci.* **71**(5), 737-743 (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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