

Product Data Sheet

Product Name: Lupulone

Cat. No.: GC47582

Chemical Properties

Cas. No. 468-28-0

SMILES O=C1C(C/C=C(C)/C)(C/C=C(C)/C)C(O)=C(C(CC(C)C)=O)C(O)=C1C/C=C(C)/C

Formula C₂₆H₃₈O₄

M.Wt 414.6

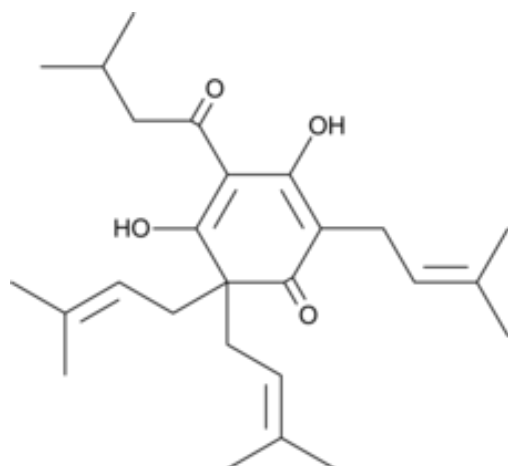
Solubility Methanol: slightly soluble

Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

Lupulone is a beta-acid that has been found in the hop plant, *H. lupulus*, and has diverse biological activities, including antibacterial, antioxidant, and anticarcinogenic properties.^{1,2,3} Lupulone is active against *B. subtilis* and *S. aureus* (MICs = 1 and 1.2 µg/ml, respectively), as well as *T. b. brucei* and *L. m. mexicana* (IC₅₀s = 0.9 and 4.7 µg/ml, respectively).^{1,2} It scavenges 2,2-diphenyl-1-picrylhydrazyl radicals in a cell-free assay and inhibits lipid peroxidation in rat brain homogenates (IC₅₀s = 25 and 39 µM, respectively).⁴ It reduces proliferation, migration, and capillary tube

Caution: Product has not been fully validated for medical applications. For research use only.

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formation in human umbilical vein endothelial cells (HUVECs) when used at concentrations ranging from 2.5 to 50 µg/ml.⁵ Lupulone (40 µg/ml) activates the extrinsic apoptotic death pathway in SW480 and SW620 colon cancer cells.³

1. Teuber, M., and Schmalreck, A.F. Membrane leakage in *Bacillus subtilis* 168 induced by the hop constituents lupulone, humulone, isohumulone and humulinic acid *Arch. Mikrobiol.* 94(2) 159-171 (1973)
2. Bocquet, L., Sahpaz, S., Bonneau, N., et al. Phenolic compounds from *Humulus lupulus* as natural antimicrobial products: New weapons in the fight against methicillin resistant *Staphylococcus aureus*, *Leishmania mexicana* and *Trypanosoma brucei* strains *Molecules* 24(6) 1024 (2019)
3. Lamy, V., Roussi, S., Chaabi, M., et al. Lupulone, a hop bitter acid, activates different death pathways involving apoptotic TRAIL-receptors, in human colon tumor cells and in their derived metastatic cells *Apoptosis* 13(10) 1232-1242 (2008)
4. Tagashira, M., Watanabe, M., and Uemitsu, N. Antioxidative activity of hop bitter acids and their analogues *Biosci. Biotechnol. Biochem.* 59(4) 740-742 (1995)
5. Siegel, L., Miterique-Grosse, A., Griffon, C., et al. Antiangiogenic properties of lupulone, a bitter acid of hop cones *Anticancer Res.* 28(1A) 289-294 (2008)

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