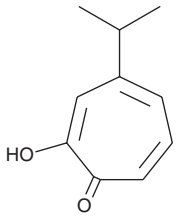
PRODUCT INFORMATION

Hinokitiol

Item No. 17538

CAS Registry No.: 499-44-5
Formal Name: 2-hydroxy-4-(1-methylethyl)-2,4,6-cycloheptatrien-1-one
Synonyms: NSC 18804, β-Thujaplicin, 4-isopropyl Tropolone
MF: $C_{10}H_{12}O_2$
FW: 164.2
Purity: ≥98%
UV/Vis.: λ_{max}: 238, 320 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Hinokitiol is supplied as a crystalline solid. A stock solution may be made by dissolving the hinokitiol in the solvent of choice. Hinokitiol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of hinokitiol in these solvents is approximately 20, 30, and 12.5 mg/ml, respectively.

Hinokitiol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, hinokitiol should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Hinokitiol has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Hinokitiol is a tropolone originally isolated from the heart wood of *T. plicata* that has diverse biological activities, including antifungal, antibacterial, and antiproliferative properties.[1-3] It inhibits proliferation of HCT-116 and SW-620 colon cancer cells (IC_{50}s = 4.5 and 4.4 µM, respectively), arrests the cell cycle, and induces apoptosis.[4] In mouse xenograft models of colon cancer, hinokitiol (100 mg/kg) decreases tumor volume and weight. It also has effects on platelets, inhibiting thrombus formation in mice and selectively inhibiting platelet-type 12-lipoxygenase (12-LO; IC_{50} = 0.1 µM) over leukocyte-type 12-LO (IC_{50} = 50 µM) *in vitro*.[5,6]

References

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3. Morita, Y., Sakagami, Y., Okabe, T., *et al. Biocontrol Sci.* **12(3)**, 101-110 (2007).
4. Lee, Y.S., Choi, K.M., Kim, W., *et al. J. Nat. Prod.* **76(12)**, 2195-2202 (2013).
5. Lin, K.H., Kuo, J.R., Lu, W.J., *et al. Biochem. Pharmacol.* **85(10)**, 1478-1485 (2013).
6. Suzuki, H., Ueda, T., Juránek, I., *et al. Biochem. Bioph. Res. Commun.* **275(3)**, 885-889 (2000).

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