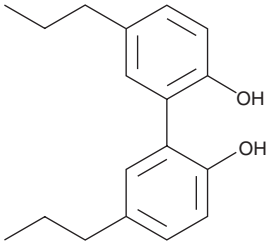
PRODUCT INFORMATION

Tetrahydromagnolol

Item No. 14234

CAS Registry No.: 20601-85-8
Formal Name: 5,5'-dipropyl-[1,1'-biphenyl]-2,2'-diol
Synonym: Magnolignan
MF: $C_{18}H_{22}O_2$
FW: 270.4
Purity: ≥98%
UV/Vis.: λ_{max}: 212, 292 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

Tetrahydromagnolol is supplied as a crystalline solid. A stock solution may be made by dissolving the tetrahydromagnolol in the solvent of choice, which should be purged with an inert gas. Tetrahydromagnolol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of tetrahydromagnolol in ethanol and DMF is approximately 20 mg/ml and approximately 16 mg/ml in DMSO.

Tetrahydromagnolol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, tetrahydromagnolol should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Tetrahydromagnolol has a solubility of approximately 0.16 mg/ml in a 1:5 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Tetrahydromagnolol is an agonist of cannabinoid (CB) receptors, an antagonist of GPR55 (K_B = 13.3 µM in a β-arrestin translocation assay), and a major metabolite of magnolol (Item No. 14233).[1] Tetrahydromagnolol binds to the CB_1 and CB_2 receptors (K_is = 2.26 and 0.416 µM, respectively, for the human receptor) and inhibits forskolin-induced cAMP accumulation (EC_{50} = 9.01 and 0.17 µM, respectively, in CHO cells expressing the human receptors). Tetrahydromagnolol reduces melanin biosynthesis, as well as decreases tyrosinase protein levels by inhibiting tyrosinase maturation and increasing the rate of its degradation.[2]

References

1. Rempel, V., Fuchs, A., Hinz, S., et al. Magnolia extract, magnolol, and metabolites: Activation of cannabinoid CB_2 receptors and blockade of the related GPR55. *ACS Med. Chem. Lett.* **4(1)**, 41-45 (2013).
2. Yokota, T. and Sasaki, M. Development of whitening cosmetics with magnolignan on inhibitory effect of the maturation of tyrosinase. *Fragr. J.* **34(2)**, 80-83 (2006).

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