

Product Data Sheet

Product Name: Humulone

Cat. No.: GC64833

Chemical Properties

Cas. No. 26472-41-3

Formula C₂₁H₃₀O₅

M.Wt 362.46

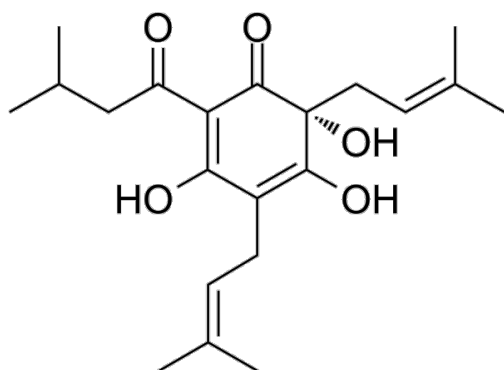
Solubility DMSO : 100 mg/mL (275.89 mM; Need ultrasonic)

Storage Store at -20°C, protect from light

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

Humulone (α-Lupulic acid), a prenylated phloroglucinol derivative, is a potent cyclooxygenase-2 (COX-2) inhibitor. Humulone acts as a positive modulator of GABAA receptor at low micromolar concentrations. Humulone is an inhibitor of bone resorption. Humulone possesses antioxidant, anti-angiogenic and apoptosis-inducing properties[1][2][3].

Humulone (0.1, 1, 10, 100, 1000, 10000 nM; for 12 h) with 10 ng/ml TNFα dose-dependently decreases the amount of released PGE2 with an IC₅₀ of about 30 nM in MC3T3-E1 cells. Humulone

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

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reduces cyclooxygenase activity of the TNF α -treated cells[1]. Humulone (0.1-10000 nM; for 12 h) suppresses the TNF α -induced increase of cyclooxygenase-2 mRNA[1]. Humulone hardly affects the cyclooxygenase-1 activity below 10 μ M, whereas inhibits the cyclooxygenase-2 activity with an IC₅₀ of about 1.6 μ M in MC3T3-E1 cells[1].

Humulone (10 or 20 mg/kg; IP; single dose) shortens sleep onset and increases the duration of sleep induced by pentobarbital and decreases the spontaneous locomotion in open field at 20 mg/kg[2]. Humulone (10 μ mol; applied topically to the dorsal shaved area) pre-treatment significantly inhibited TPA (10 nmol)-induced COX-2 expression in Female ICR mice (6-7 weeks of age) skin[3]. Humulone (1, 10 μ mol; applied topical; pre-treatment 30 min) suppresses TPA-induced NF- κ B DNA binding. Humulone attenuates TPA-stimulated nuclear translocation of p65 and p50 subunit proteins of NF- κ B[3].

[1]. K Yamamoto, et al. Suppression of cyclooxygenase-2 gene transcription by humulon of beer hop extract studied with reference to glucocorticoid. FEBS Lett. 2000 Jan 14;465(2-3):103-6.

[2]. Ali Y Benkherouf, et al. Humulone Modulation of GABA A Receptors and Its Role in Hops Sleep-Promoting Activity. Front Neurosci. 2020 Oct 14;14:594708.

[3]. Jung-Chul Lee, et al. Humulone inhibits phorbol ester-induced COX-2 expression in mouse skin by blocking activation of NF-kappaB and AP-1: IkappaB kinase and c-Jun-N-terminal kinase as respective potential upstream targets. Carcinogenesis. 2007 Jul;28(7):1491-8.

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