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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Humulone

Cat. No.: HY-N6084

CAS No.: 26472-41-3

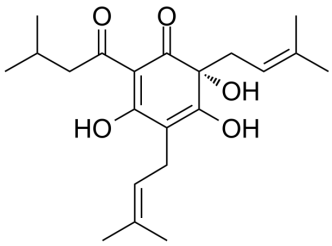
Molecular Formula: $C_{21}H_{30}O_5$

Molecular Weight: 362.46

Target: COX; GABA Receptor; Apoptosis

Pathway: Immunology/Inflammation; Membrane Transporter/Ion Channel; Neuronal Signaling; Apoptosis

Storage: -20°C, protect from light
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (137.95 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.7589 mL	13.7946 mL	27.5893 mL
	5 mM	0.5518 mL	2.7589 mL	5.5179 mL
	10 mM	0.2759 mL	1.3795 mL	2.7589 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

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

IC_{50} & Target

COX-2

In Vitro

Humulone (0.1, 1, 10, 100, 1000, 10000 nM; for 12 h) with 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 reduces cyclooxygenase activity of the TNFK-treated cells[1].

Humulone (0.1-10000 nM; for 12 h) suppresses the TNFα-induced increase of cyclooxygenase-2 mRNA[1].

Humulone hardly affects the cyclooxygenase-1 activity below 10 μM, whereas inhibits the cyclooxygenase-2 activity with an IC50 of about 1.6 μM in MC3T3-E1 cells[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

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 μmol; 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 μmol; applied topical; pre-treatment 30 min) suppresses TPA-induced NF-κB DNA binding. Humulone attenuates TPA-stimulated nuclear translocation of p65 and p50 subunit proteins of NF-κB[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male BALB/cAnNRj mice (9-11 weeks of age)[2]
Dosage:	10 or 20 mg/kg
Administration:	IP; pre-treatment before sodium pentobarbital (35 mg/kg; i.p.) and ethanol (3.5 g/kg)
Result:	Significantly decreased the latency and prolonged the duration of sleep induced by pentobarbital at 20 mg/kg dose. These effects were not observed at a lower dose of 10 mg/kg. Showed no effect on the onset of sleep induced by ethanol, but significantly increased sleep duration dose-dependently.

REFERENCES

[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):

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