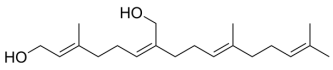
Plaunotol

Cat. No.:	HY-106789
CAS No.:	64218-02-6
Molecular Formula:	$C_{20}H_{34}O_2$
Molecular Weight:	306.48
Target:	Bacterial
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Plaunotol is an orally active acyclic diterpene alcohol. Plaunotol has antibacterial activity against Helicobacter pylori which causes peptic ulcer [1]. Plaunotol inhibits tumor angiogenesis and cell proliferation. Plaunotol induces apoptosis by activation of caspase 8 and caspase 9 pathways. Plaunotol is a potential anticancer agent against colon cancer [2].

In Vitro

Plaunotol (0, 10, 20, or 40 μM, 24 or 48 h) shows a significant inhibition of cell proliferation in human colon cancer cell line DLD1[2].

Plaunotol (40 μM, 24 or 48 h) induces apoptosis in human colon cancer cell line DLD1[2].

Plaunotol (0, 10, 20, or 40 μM, 48 h) causes activation of caspase-3 in human colon cancer cell line DLD1[2].

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

Cell Proliferation Assay[2]

Cell Line:	human colon cancer cell line DLD1
Concentration:	0, 10, 20, or 40 μM
Incubation Time:	24 or 48 h
Result:	Inhibited the proliferation of human colon cancer cell line DLD1 after 48 h.

Apoptosis Analysis[2]

Cell Line:	human colon cancer cell line DLD1
Concentration:	40 μM
Incubation Time:	24 or 48 h
Result:	Caused a significant increase in the population of Annexin V [+] apoptotic cells.

Western Blot Analysis[2]

Cell Line:	human colon cancer cell line DLD1
Concentration:	40 μM
Incubation Time:	48 h

Result:	Induced PARP cleavage, and showed activation of caspase-3.

In Vivo

Plaunotol (10, 25 or 50 mg/kg, orally, for 3 h) significantly alleviates gastric mucosal damage in male Wistar rats treated with C48/80 [3].

Plaunotol (10, 25 or 50 mg/kg, orally, for 3 h) does not affect serum serotonin and histamine concentrations or gastric mucosal blood flow in male Wistar rats treated with C48/80 [3].

Plaunotol (10, 25 or 50 mg/kg, orally, 3 h) significantly decreases the activity of myeloperoxidase (MPO) and the content of lipid peroxidase thiobarbituric acid reactive substance (TBARS) of gastric mucosa in male Wistar rats treated with C48/80[3].

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

Animal Model:	Male Wistar rats[3]
Dosage:	10, 25 or 50 mg/kg
Administration:	Oral administration
Result:	Plaunotol attenuated the severity of the gastric mucosal lesions.

REFERENCES

[1]. S. Songkro, et al. Investigation of plaunoi-loaded micro/nanoemulsions for the treatment of dermatitis: formulation, evaluation and skin irritation studies. J. DRUG DEL. SCI. TECH. 2011 21 (5) 401-410.

[2]. Oshikawa N, et al. Plaunotol and geranylgeraniol induce caspase-mediated apoptosis in colon cancer. J Surg Res. 2009 May 15;153(2):246-53.

[3]. Ohta Y, et al. Plaunotol prevents the progression of acute gastric mucosal lesions induced by compound 48/80, a mast cell degranulator, in rats. Pharmacology. 2005 Jul;74(4):182-92.

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