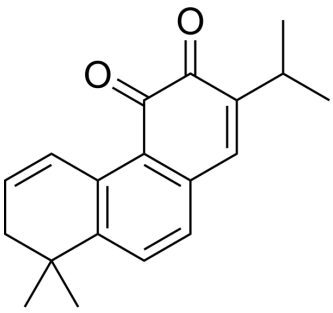
Dehydromiltirone

Cat. No.:	HY-122961
CAS No.:	116064-77-8
Molecular Formula:	$C_{19}H_{20}O_2$
Molecular Weight:	280.36
Target:	NF-κB; p38 MAPK
Pathway:	NF-κB; MAPK/ERK Pathway
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Dehydromiltirone (1,2-Didehydromiltirone) is a diterpenoid quinone with an anti-inflammatory effect. Dehydromiltirone prevents liver injury by modifying the MAPK and NF-κB signaling pathways, reducing neuroinflammatory responses, and inhibiting platelet aggregation. Dehydromiltirone can be used for osteoporosis research[1][2].

In Vitro

Dehydromiltirone (100 μg/mL; for 24 h) inhibits p38 and NF-κB signaling in Kupffer cells[1].
Dehydromiltirone inhibits the expression of osteoclast-associated genes, including NFATc1, CTSK, c-Fos, Acp5, and MMP9; and the phosphorylation of P38, ERK, and JNK of the MAPK signaling pathway; and the degradation of IκB-α of NF-κB signaling pathway. Dehydromiltirone exhibits an anti-osteoclastogenesis effect by reducing the expression of related genes, ultimately inhibiting bone resorption in vitro[2].

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

Western Blot Analysis[1]

Cell Line:	Kupffer cells
Concentration:	100 μg/mL
Incubation Time:	For 24 h
Result:	Significantly decreased p38 and p-p38 levels, NF-κBp65, IκB, and c-fos protein levels.

In Vivo

Dehydromiltirone (50-200 mg/kg, p.o.; daily; for five consecutive days) protects the liver from CCl4-induced injury. Dehydromiltirone reduces the increase in the proinflammatory cytokines TNF-α, IL-1 and IL-6, indicating an effect on alleviating liver inflammation[1].

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Animal Model:	Rat model of acute liver injury[1]
Dosage:	50 mg/kg, 100 mg/kg, and 200 mg/kg
Administration:	p.o.; daily; for five consecutive days
Result:	Protected liver from CCl4-induced damage.

REFERENCES

[1]. Shuqiang Yue, et al. Salvia miltiorrhiza compounds protect the liver from acute injury by regulation of p38 and NFκB signaling in Kupffer cells. Pharm Biol. 2014 Oct;52(10):1278-85.

[2]. Wei Deng, et al. Dehydromiltirone inhibits osteoclast differentiation in RAW264.7 and bone marrow macrophages by modulating MAPK and NF-κB activity. Front Pharmacol. 2022 Sep 21;13:1015693.

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