Neocryptotanshinone

Cat. No.: HY-119720

CAS No.: 109664-02-0

Molecular Formula: $C_{19}H_{22}O_4$

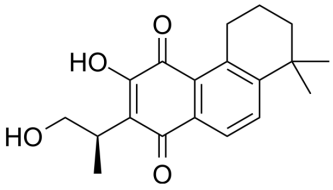
Molecular Weight: 314.38

Target: NF-κB; NO Synthase

Pathway: NF-κB; Immunology/Inflammation

Storage: 4°C, protect from light

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



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (318.09 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.1809 mL	15.9043 mL	31.8086 mL
	5 mM	0.6362 mL	3.1809 mL	6.3617 mL
	10 mM	0.3181 mL	1.5904 mL	3.1809 mL

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

BIOLOGICAL ACTIVITY

Description

Neocryptotanshinone, a fatty diterpenoids from Salvia Miltiorrhiza, inhibits lipopolysaccharide-induced inflammation by suppression of NF-κB and iNOS signaling pathways[1][2].

IC_{50} & Target

iNOS

In Vitro

Neocryptotanshinone exhibits anti-inflammatory effect by suppression of NF-κB and iNOS signaling pathways[1].
Neocryptotanshinone (10 μM and 20 μM, 24 h) inhibits LPS-induced iNOS protein expression in RAW264.7 cells[1].
Neocryptotanshinone (20 μM, 24 h) shows no obvious cytotoxic effect towards murine RAW264.7 macrophages[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	RAW264.7 cells
Concentration:	5, 10 and 20 μM
Incubation Time:	24 hours

Result:	Inhibited LPS-induced cell viability in a dose-dependent manner.

Western Blot Analysis[1]

Cell Line:	RAW264.7 cells
Concentration:	20 μM
Incubation Time:	24 hours
Result:	Inhibited LPS-induced activation of NF-κB pathway and down-regulated LPS-induced expression of p-NF-κB p65, p-IκBα and p-IKKβ.

In Vivo

Neocryptotanshinone causes reversals of decreased pain thresholds induced by MSU treatment after 30, 60, and 120 min S. miltiorrhiza Bunge extract treatment (contains single active components)[3].

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

Animal Model:	MSU-induced pain model in male ICR mice (weighing 20-25 g)[2]
Dosage:	10, 25, 50 or 100 mg/kg
Administration:	Oral gavage; for 30, 60, 120 min
Result:	Inhibited inflammatory symptoms and nociceptive behaviors in a dose-dependent manner.

REFERENCES

[1]. FENG Jinghui, et al. Effects of Salvia miltiorrhiza Bunge extract and its single components on monosodium urate-induced pain in vivo and lipopolysaccharide-induced inflammation in vitro. J Tradit Chin Med. 2021. 41(2): 219-226.

[2]. Chuanhong Wu, et al. Neocryptotanshinone Inhibits Lipopolysaccharide-Induced Inflammation in RAW264.7 Macrophages by Suppression of NF-κB and iNOS Signaling Pathways. Acta Pharm Sin B. 2015 Jul;5(4):323-9.

[3]. H C Lin, et al. Two New Fatty Diterpenoids From Salvia Miltiorrhiza. J Nat Prod. 2001 May;64(5):648-50.

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