Ailanthoidol

Cat. No.: HY-N8449

CAS No.: 156398-61-7

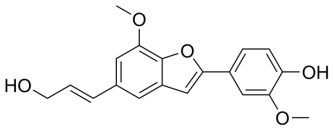
Molecular Formula: $C_{19}H_{18}O_5$

Molecular Weight: 326.34

Target: Others

Pathway: Others

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Ailanthoidol is a natural occurring neolignan, with anti-inflammatory and antitumor activities. Ailanthoidol has chemopreventive activity against tumor promotion[1][2].

In Vitro

Ailanthoidol (20 μM; 24-72 hours) showed no cytotoxicity toward RAW264.7 macrophages[1].
Ailanthoidol (1.25-20 μM; 24 hours) suppresses the generation of nitric oxide (NO) and prostaglandin E2 , aswell as theexpression of inducible NO synthase (iNOS) and cyclooxygenase (COX)-2 induced by lipopolysaccharide (LPS) in RAW264.7 cells[1].
Ailanthoidol (1.25-20 μM; 24 hours) inhibits the production of inflammatory cytokines induced by LPS in RAW264.7 cells, including interleukin (IL)-1b and IL-6[1].
Ailanthoidol suppresses NF-kB activation by blocking Ik-Ba degradation[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	RAW264.7 cells
Concentration:	0 μM, 1.25 μM, 2.5 μM,5 μM, 10 μM, 20 μM
Incubation Time:	24 hours
Result:	Inhibited LPS-induced NO and PGE2 secretion in a dose-dependent manner.

In Vivo

Ailanthoidol (0.1-10 mg/kg; i.g.; 24 hours and 1 hours before LPS was injected, for 5 days) protects BALB/c mice from LPS (25mg/kg)-induced endotoxin shock, possibly through inhibition of the production of inflammatory cytokines and NO[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Eight-week-old male BALB/c mice[1]
Dosage:	0.1 mg/kg, 1 mg/kg, 10 mg/kg, 20 mg/kg
Administration:	Oral gavage, 24 hours and 1 hours before LPS was injected, for 5 days
Result:	Significantly improved the mortality of these mice in a concentration-dependent manner and no mice were killed in the 20mg/kg group.

REFERENCES

[1]. Jin-Kyung Kim, et al. Ailanthoidol suppresses lipopolysaccharide-stimulated inflammatory reactions in RAW264.7 cells and endotoxin shock in mice. J Cell Biochem. 2011 Dec;112(12):3816-23.

[2]. Yean-Jang Lee, et al. Inhibitory effect of ailanthoidol on 12-O-tetradecanoyl-phorbol-13-acetate-induced tumor promotion in mouse skin. Oncol Rep. 2006 Oct;16(4):921-7.

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