Web: www.taiclone.com
Tel: +886-2-2735-9682
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Nordihydroguaiaretic acid

Catalog No: tcsc1431

Available Sizes

Size: 100mg

Size: 500mg

Specifications

CAS No:
500-38-9

Formula:
$C_{18}H_{22}O_4$

Pathway:
Metabolic Enzyme/Protease;Autophagy

Target:
5-Lipoxygenase;Autophagy

Purity / Grade:
>98%

Solubility:
DMSO : 75 mg/mL (248.05 mM; Need ultrasonic)

Alternative Names:
NDGA

Observed Molecular Weight:
302.36

Product Description

Nordihydroguaiaretic acid is a **5-lipoxygenase** (**5LOX**) (**IC_{50}**=8±3 μM) and tyrosine kinase inhibitor.

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IC50 & Target: IC50: 8±3 μM (5LOX)[1]

In Vitro: The natural dicatechol Nordihydroguaiaretic acid (NDGA) is a selective 5LOX inhibitor from the creosote plant (*Larrea tridentata*: Zygophyllaceae). The 5LOX-inhibiting natural dicatechol Nordihydroguaiaretic acid is a very effective, non-toxic antagonist of TNFα-stimulated microglial activation. Nordihydroguaiaretic acid is approximately six times more potent than Minocycline in vitro, with an IC_{50} value of 8±3 μM and no toxicity at 100 μM. Significant NO_2^- suppression is observed at 800 nM Nordihydroguaiaretic acid. Similar efficacy is observed for natural and synthetic Nordihydroguaiaretic acid, as well as for the acetyl ester of Nordihydroguaiaretic acid. Nordihydroguaiaretic acid also suppresses TNFα-stimulated PGE_2 production by EOC-20 cells with an IC_{50} of 841 nM[1].To test the proliferation effect of prostaglandin E1 and Nordihydroguaiaretic acid (NDGA) on cancer cell lines, HepG2 cell lines are treated with various doses of the two compounds and the positive compounds 8-anilino-1-naphtalene sulfonate (ANS), respectively, for 24 h and cell viability is examined by the MTT assay. ANS displays a dose-dependent inhibition (0, 10, 30, 50, 80, 100, 120, and 150 μM) with the estimated IC_{50} being 25.888 μM. The tested IC_{50} of prostaglandin E1 is 41.223 μM and Nordihydroguaiaretic acid is 45.646 μM, respectively, at different concentrations of 0, 30, 60, 80, 100, 120, and 140 μM[2].

In Vivo: Compared with the control *ob/ob* chow diet group, there is a significant reduction of body weight starting from 9 wk treatment in the high-dose Nordihydroguaiaretic acid (NDGA) diet group, and from 12 wk in the low-dose group. Nordihydroguaiaretic acid treatment results in higher body (rectal) temperatures of *ob/ob* mice, especially with the high dose of Nordihydroguaiaretic acid[3].