Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

Columbin

Catalog No: tcsc6235

Available Sizes

Size: 5mg

Size: 10mg

Size: 25mg

Size: 50mg

Specifications

CAS No:
546-97-4

Formula:
$C_{20}H_{22}O_6$

Pathway:
Immunology/Inflammation

Target:
COX

Purity / Grade:
>98%

Solubility:
10 mM in DMSO

Observed Molecular Weight:
358.39

Product Description

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Columbin is a diterpenoid furanolactone with anti-inflammation activity.

In Vitro: Treatment with columbin or l-NAME inhibits LPS/IFN-γ-induced NO production without affecting the viability of RAW264.7. Pre-treatment of stimulated cells with columbin does not inhibit the translocation of NF-κB to the nucleus in LPS-stimulated cells. COX-1 and COX-2 inhibitory activities of columbin are 63.7±6.4% and 18.8±1.5% inhibition at 100μM, respectively. The interaction of columbin with Tyr385 and Arg120 signifies its higher activity in COX-2, as Tyr385 is reported to be involved in the abstraction of hydrogen from C-13 of arachidonate, and Arg120 is critical for high affinity arachidonate binding[1].

In Vivo: Columbin inhibits oedema formation in mice paw. At doses of 300 mg/kg and 700 mg/kg, columbin inhibits inflammation from 0 to 5 h and the results are comparable to that of aspirin as a standard anti-inflammatory drug. The inhibitory effect of columbin on carrageenan induced paw oedema in mice may be due to the suppression of the release of mediators responsible for inflammation including prostaglandin[1]. Columbin is poorly bioavailable (2.8% p.o. and 14% i.p.) in rats, but its transport is rapid across the Caco-2 cell monolayers, suggesting that extensive first-pass metabolism in the liver is the likely reason for its poor bioavailability[2].