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

Aspirin

Catalog No: tcsc2001

Available Sizes

Size: 1g

Size: 5g

Specifications

CAS No:
50-78-2

Formula:
$C_9H_8O_4$

Pathway:
Immunology/Inflammation;Autophagy;Autophagy

Target:
COX;Autophagy;Mitophagy

Purity / Grade:
>98%

Solubility:
H2O : 0.1 mg/mL (0.56 mM; Need ultrasonic)

Alternative Names:
ASA;Acetylsalicylic Acid

Observed Molecular Weight:
180.16

Product Description

Aspirin (acetylsalicylic acid) is an inhibitor of **COX-1** with an **IC_{50}** of 27.75 μM (5 μg/mL); commonly used for the treatment of pain, fever, and inflammation.

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IC50 & Target: IC50: 5 μg/mL (COX-1), 210 μg/mL (COX-2)[1]

In Vitro: Aspirin and other non-steroid anti-inflammatory drugs inhibit the activity of cyclooxygenase (COX) which leads to the formation of prostaglandins (PGs) that cause inflammation, swelling, pain and fever[2]. Aspirin acetylates serine-530 of cyclooxygenase-1 (COX-1), thereby blocking thromboxane A synthesis in platelets and reducing platelet aggregation. This mechanism of action accounts for the effect of aspirin on prevention of coronary artery and cerebrovascular thrombosis. Aspirin is less effective in inhibiting COX-2 activity. Aspirin and salicylate inhibit COX-2 protein expression through interference with binding of CCAAT/enhancer binding protein beta (C/EBPbeta) to its cognate site on COX-2 promoter/enhancer[3]. Aspirin inhibits the activation of NF-κB. This inhibition prevents the degradation of the NF-κB inhibitor, 1κB, and therefore NF-κB is retained in the cytosol. Aspirin also inhibits NF-κB-dependent transcription from the lgκ enhancer and the human immunodeficiency virus (HIV) long terminal repeat (LTR) in transfected T cells[4]. Aspirin inhibits COX-1 and COX-2 with IC_{50} values of 3.57 μM and 29.3 μM, respectively in human articular chondrocytes[5].