

Flufenamic acid

Catalog No: tcsc4811



Available Sizes

Size: 100mg



Specifications

CAS No:

530-78-9

Formula:

$C_{14}H_{10}F_3NO_2$

Pathway:

Membrane Transporter/Ion Channel;Membrane Transporter/Ion Channel;Immunology/Inflammation;Epigenetics;PI3K/Akt/mTOR;Membrane Transporter/Ion Channel

Target:

Chloride Channel;Calcium Channel;COX;AMPK;AMPK;Potassium Channel

Purity / Grade:

>98%

Solubility:

DMSO : 300 mg/mL (1066.74 mM; Need ultrasonic)

Observed Molecular Weight:

281.23

Product Description

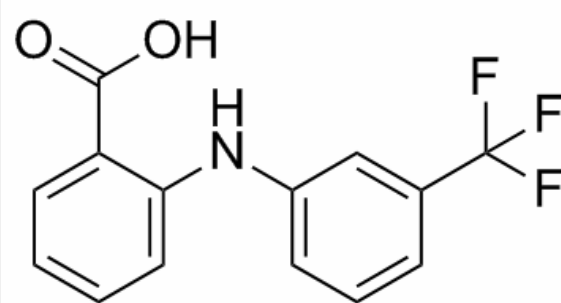
Flufenamic acid is a non-steroidal anti-inflammatory agent, inhibits cyclooxygenase (**COX**), activates **AMPK**, and also modulates ion channels, blocking **chloride channels** and **L-type Ca²⁺ channels**, modulating non-selective cation channels (**NSC**), activating **K⁺ channels**.

IC50 & Target: COX, Chloride Channel, Calcium Channel, Potassium Channel^[1], AMPK^[2]

In Vitro: Flufenamic acid is a non-steroidal anti-inflammatory agent, inhibits cyclooxygenase (COX), and also modulates ion

channels, blocking chloride channels and L-type Ca^{2+} channels, modulating non-selective cation channels (NSC), activating K^{+} channels. Flufenamic acid inhibits a wide spectrum of TRP channels, including: C3, C7, M2, M3, M4, M5, M7, M8, V1, V3, and V4 but activates at least two TRP channels (C6 and A1)^[1]. Flufenamic acid induces AMPK activation in T84 cells, and such an effect is via a direct stimulation of calcium/calmodulin-dependent protein kinase kinase beta (CaMKK β) activity^[2]. Moreover, Flufenamic acid (FFA; 5-50 μM) dose-dependently inhibits cAMP-dependent Cl^{-} secretion in intact T84 cells, suppresses CFTR-mediated apical $\text{I}_{\text{Cl}^{-}}$, and blocks the Ca^{2+} -dependent Cl^{-} secretion in a dose-dependent manner with IC_{50} of appr 10 μM and near complete inhibition at 100 μM in T84 cell monolayers, but shows no effect on Na^{+} - K^{+} ATPase or NKCC in T84 cells^[3].

In Vivo: Flufenamic acid (50 mg/kg, i.p.) has anti-inflammatory effect in a mouse model of *Vibrio cholerae* El Tor variant (EL)-induced diarrhea and significantly abrogates EL-induced intestinal fluid secretion and barrier disruption at 20 mg/kg. Furthermore, Flufenamic acid suppresses NF- κB nuclear translocation and expression of proinflammatory mediators and promotes AMPK phosphorylation in the EL-infected mouse intestine^[2].



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!