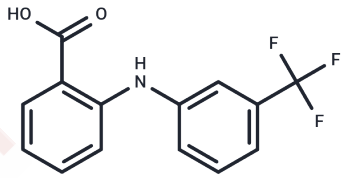
Data Sheet (Cat.No.T0858)

TargetMol

Flufenamic acid

Chemical Properties



CAS No. : 530-78-9

Formula: C14H10F3NO2

Molecular Weight: 281.23

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Flufenamic acid (Arlef) is an anthranilic acid derivative with analgesic, anti-inflammatory, and antipyretic properties. It is used in musculoskeletal and joint disorders and administered by mouth and topically.
Targets(IC50)	Calcium Channel,AMPK,Parasite,Chloride channel,COX,Potassium Channel
In vivo	Under peak amyloid fibril formation conditions (pH 4.4), Flufenamic acid binds to wild-type transthyretin (KD1=30 nM, KD2=255 nM), V30M transthyretin (KD1=41 nM, KD2=320 nM), and L55P transthyretin (KD1=74 nM, KD2=682 nM) with high affinity and negative cooperativity (pH value 7.6), fully inhibiting fibril formation at a concentration of 10.8 μM. In Xenopus oocytes, Flufenamic acid reversibly suppresses ICl(Ca) in a dose-dependent manner, with an IC50 of 28 mM, without affecting the shape of the current-voltage curve in response to depolarizing voltage. Flufenamic acid inhibits the calcium-activated non-selective cation channels in the basolateral membrane of rat pancreatic exocrine cells activated by an inward-outward patch with an IC50 of 10 μM. The compound also inhibits currents activated by intracellular ADP-ribose in recombinant human TRPM2 (hTRPM2) channels and the CRI-G1 rat insulinoma cell line. Additionally, it reversibly inhibits (IC50=13.8 μM) DAP and phase discharge in rat suprachiasmatic neurons with similar kinetics, without significantly affecting membrane potential, spike threshold, or input resistance (P > 0.05), nor does it significantly affect the frequency and amplitude of spontaneous synaptic potentials.

Solubility Information

Solubility	Ethanol: 28.1 mg/mL (99.92 mM),Sonication is recommended. DMSO: 250 mg/mL (888.95 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (7.11 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.5558 mL	17.779 mL	35.5581 mL
5 mM	0.7112 mL	3.5558 mL	7.1116 mL
10 mM	0.3556 mL	1.7779 mL	3.5558 mL
50 mM	0.0711 mL	0.3556 mL	0.7112 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

White MM, et al. Mol Pharmacol, 1990, 37(5), 720-724.
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Gögelein H, et al. FEBS Lett, 1990, 268(1), 79-82.
Baures PW, et al. Bioorg Med Chem, 1999, 7(7), 1339-1347.
Hill K, et al. Neuropharmacology, 2004, 47(3), 450-460.
Ghamari-Langroudi M et al. J Physiol, 2002, 545(Pt 2), 537-542.
Pongkorpsakol P, et al. Flufenamic acid protects against intestinal fluid secretion and barrier leakage in a mouse model of Vibrio cholerae infection through NF-κB inhibition and AMPK activation. Eur J Pharmacol. 2017 Mar 5;798: 94-104.
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