

Flufenamic acid

Chemical Properties

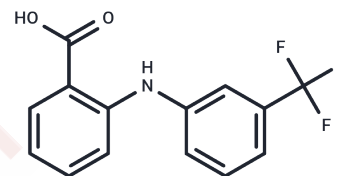
CAS No. : 530-78-9

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

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| 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 <i>Xenopus</i> oocytes, Flufenamic acid reversibly suppresses ICl(Ca) in a dose-dependent manner, with an IC ₅₀ 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 IC ₅₀ 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 (IC ₅₀ =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

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|---------------------|---|
| 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+90% Saline: < 10 mg/mL (35.56 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 10 mg/mL (35.56 mM),Suspension. <i>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.</i> |

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

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