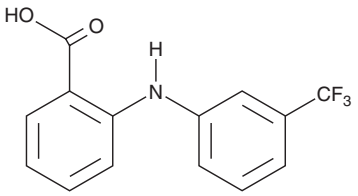
PRODUCT INFORMATION

Flufenamic Acid

Item No. 21447

CAS Registry No.:	530-78-9
Formal Name:	2-[[3-(trifluoromethyl)phenyl]amino]-benzoic acid
Synonyms:	CI-440, FFA, Fluphenamic Acid, NSC 82699, NSC 219007
MF:	$C_{14}H_{10}F_3NO_2$
FW:	281.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 219, 288, 343 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Flufenamic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the flufenamic acid in the solvent of choice, which should be purged with an inert gas. Flufenamic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of flufenamic acid in these solvents is approximately 11, 39, and 59 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of flufenamic acid can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of flufenamic acid in PBS, pH 7.2, is approximately 50 µg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Flufenamic acid is a non-steroidal anti-inflammatory drug (NSAID) and COX inhibitor (IC_{50}s = 3 and 9.3 µM for human COX-1 and COX-2, respectively).[1] Flufenamic acid inhibits TNF-α-induced increases in COX-2 levels and NF-κB activation in HT-29 colon cancer cells in a concentration-dependent manner.[2] It inhibits calcium influx induced by fMLP (fMLF; Item No. 21495) or A23187 (Item No. 11016) in human polymorphonuclear leukocytes (PMN) with IC_{50} values of 29 and 14 µM, respectively.[3] Flufenamic acid also activates various ion channels, including transient receptor potential canonical 6 (TRPC6) and large-conductance calcium-activated potassium channel ($K_{Ca}1.1$).[4] It also inhibits various ion channels, including TRPC3 and cystic fibrosis transmembrane conductance regulator (CFTR). Flufenamic acid (20 mg/kg) reduces increases in intestinal fluid secretion and intestinal barrier disruption in mice infected with the El Tor variant of *V. cholerae*.[5]

References

1. Warner, T.D., Giuliano, F., Vojnovic, I., *et al. Proc. Nat. Acad. Sci. USA* **96(13)**, 7563-7568 (1999).
2. Paik, J.H., Ju, J.H., Lee, J.Y., *et al. J. Biol. Chem.* **275(36)**, 28173-28179 (2000).
3. Kankaanranta, H. and Moilanen, E. *Mol. Pharmacol.* **47(5)**, 1006-1013 (1995).
4. Guinamard, R., Simard, C., and Del Negro, C. *Pharmacol. Ther.* **138(2)**, 272-284 (2013).
5. Pongkorpsakol, P., Satitsri, S., Wongkrasant, P., *et al. Eur. J. Pharmacol.* **798**, 94-104 (2017).

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