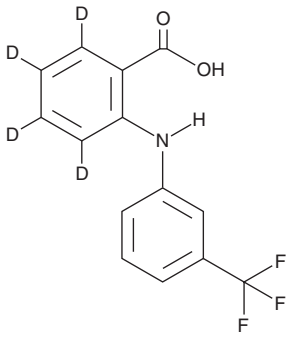
PRODUCT INFORMATION

Flufenamic Acid-d_4

Item No. 33272

CAS Registry No.:	1185071-99-1
Formal Name:	2-[[3-(trifluoromethyl)phenyl]amino]-benzoic acid-d_4
Synonyms:	FFA-d_4, Fluphenamic Acid-d_4
MF:	$C_{14}H_6D_4F_3NO_2$
FW:	285.3
Chemical Purity:	≥98% (Flufenamic Acid)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_4); ≤1% d_0
Supplied as:	A 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-d_4 is intended for use as an internal standard for the quantification of flufenamic acid (Item No. 21447) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Flufenamic acid-d_4 is supplied as a solid. A stock solution may be made by dissolving the flufenamic acid-d_4 in the solvent of choice, which should be purged with an inert gas. Flufenamic acid-d_4 is soluble in organic solvents such as methanol, DMSO, and dimethyl formamide.

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 the large-conductance calcium-activated potassium channel (K_{Ca}1.1).[4] It also inhibits various ion channels, including TRPC3 and the 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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