

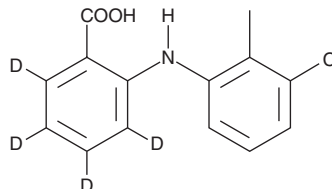
# PRODUCT INFORMATION



## Tolfenamic Acid-d<sub>4</sub>

Item No. 28700

**CAS Registry No.:** 1246820-82-5  
**Formal Name:** 2-[(3-chloro-2-methylphenyl)amino]-benzoic acid-d<sub>4</sub>  
**MF:** C<sub>14</sub>H<sub>8</sub>ClD<sub>4</sub>NO<sub>2</sub>  
**FW:** 265.7  
**Chemical Purity:** ≥98% (Tolfenamic Acid)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>4</sub>); ≤1% d<sub>0</sub>  
**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

Tolfenamic acid-d<sub>4</sub> is intended for use as an internal standard for the quantification of tolfenamic acid (Item No. 70480) 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).

Tolfenamic acid-d<sub>4</sub> is supplied as a solid. A stock solution may be made by dissolving the tolfenamic acid-d<sub>4</sub> in the solvent of choice, which should be purged with an inert gas. Tolfenamic acid-d<sub>4</sub> is soluble in methanol, DMSO, and dimethyl formamide.

### Description

Tolfenamic acid-d<sub>4</sub> is intended for use as an internal standard for the quantification of tolfenamic acid (Item No. 70480) by GC- or LC-MS. Tolfenamic acid is a non-steroidal anti-inflammatory drug (NSAID) with anticancer activity.<sup>1-5</sup> It is selective for COX-2 over COX-1 in canine DH82 monocyte/macrophage cells (IC<sub>50</sub>s = 3.53 and >51.2 µg/ml, respectively).<sup>1</sup> Tolfenamic acid inhibits calcium influx in human polymorphonuclear leukocytes (PMNLs) induced by N-formyl-L-methionyl-L-leucyl-L-phenylalanine (fMLP; Item No. 21495) or the calcium ionophore A23187 (Item Nos. 11016 | 22030) in a concentration-dependent manner.<sup>2</sup> It decreases protein levels of the transcription factors Sp1, Sp3, and Sp4 in PANC-1 and L3.6pl cells when used at a concentration of 50 µM and inhibits proliferation of PANC-1, L3.6pl, and PANC-28 cells in a concentration-dependent manner.<sup>4</sup> Tolfenamic acid (50 and 100 µM) decreases the viability of and induces apoptosis in MDA-MB-231 cells.<sup>5</sup> It reduces tumor growth in an MDA-MB-231 mouse xenograft model when administered at doses of 25 and 50 mg/kg. Tolfenamic acid (150 µmol/kg) reduces carrageenan-induced paw edema in mice by 24%.<sup>3</sup>

### Reference

1. Kay-Mugford, P., Benn, S.J., LaMarre, J., *et al.* *Am. J. Vet. Res.* **61**(7), 802-810 (2000).
2. Kankaanranta, H. and Moilanen, E. *Mol. Pharmacol.* **47**(5), 1006-1013 (1995).
3. Galanakis, D., Kourounakis, A.P., Tsiakitzis, K.C., *et al.* *Bioorg. Med. Chem. Lett.* **14**(14), 3639-3643 (2004).
4. Abdelrahim, M., Baker, C.H., Abbruzzese, J.L., *et al.* *J. Natl. Cancer Inst.* **98**(12), 855-868 (2006).
5. Kim, H.J., Cho, S.D., Kim, J., *et al.* *J. Clin. Biochem. Nutr.* **52**(1), 21-26 (2013).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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