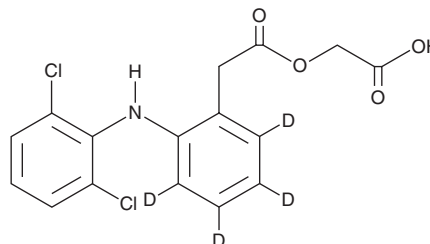


# PRODUCT INFORMATION



## Aceclofenac-d<sub>4</sub> Item No. 43487

**CAS Registry No.:** 2748492-20-6  
**Formal Name:** 2-[(2,6-dichlorophenyl)amino]-d<sub>4</sub>-benzeneacetic acid, carboxymethyl ester  
**MF:** C<sub>16</sub>H<sub>9</sub>Cl<sub>2</sub>D<sub>4</sub>NO<sub>4</sub>  
**FW:** 358.2  
**Chemical Purity:** ≥98% (Acedofenac)  
**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

Acceclofenac-d<sub>4</sub> is intended for use as an internal standard for the quantification of acceclofenac (Item No. 28620) 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).

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

### Description

Acceclofenac is a non-steroidal anti-inflammatory drug (NSAID) and a derivative of diclofenac (Item Nos. 22983 | 70680).<sup>1</sup> Acceclofenac inhibits the production of prostaglandin E<sub>2</sub> (PGE<sub>2</sub>; Item No. 14010) and thromboxane B<sub>2</sub> (TXB<sub>2</sub>; Item No. 19030) by 25 and 30%, respectively, in cell-free assays when used at concentrations of 10 and 100 μM, respectively. It selectively inhibits COX-2 in isolated whole blood (IC<sub>50</sub>s = 0.8 and >100 μM for COX-2 and COX-1, respectively) and inhibits the production of PGE<sub>2</sub> in patient-derived human rheumatoid synovial cells (IC<sub>50</sub>s = 1.9-29.4 nM).<sup>1,2</sup> Acceclofenac reduces IL-1β-induced increases in IL-6 production by 21 and 43% in cultured chondrocytes without and with osteoarthritic lesions, respectively, when used at a concentration of 30 μM.<sup>1</sup> Acceclofenac inhibits carrageenan-induced paw edema (ED<sub>50</sub> = 3.6 mg/kg) and abscess formation (ED<sub>30</sub> = 1.1 mg/kg) in rats.<sup>3</sup> It also inhibits an increase in joint diameter in a rat model of arthritis induced by complete Freund's adjuvant (CFA).<sup>4</sup>

### References

1. Henrotin, Y., de Leval, X., Mathy-Hartet, M., *et al.* In vitro effects of acceclofenac and its metabolites on the production by chondrocytes of inflammatory mediators. *Inflamm. Res.* 50(8), 391-399 (2001).
2. Yamazaki, R., Kawai, S., Matsumoto, T., *et al.* Hydrolytic activity is essential for acceclofenac to inhibit cyclooxygenase in rheumatoid synovial cells. *J. Pharmacol. Exp. Ther.* 289(2), 676-681 (1999).
3. Grau, M., Guasch, J., Montero, J.L., *et al.* The pharmacological profile of acceclofenac, a new nonsteroidal antiinflammatory and analgesic drug. *Agents Actions Suppl.* 32, 125-129 (1991).
4. Poorvashree, J. and Suneela, D. Novel drug delivery of dual acting prodrugs of hydroxychloroquine with aryl acetic acid NSAIDs: Design, kinetics and pharmacological study. *Drug Deliv. Transl. Res.* 7(5), 709-730 (2017).

#### 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

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 05/12/2025

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM