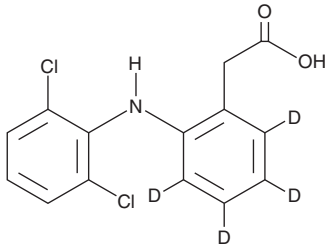
PRODUCT INFORMATION

Diclofenac-d_4

Item No. 19072

CAS Registry No.: 153466-65-0
Formal Name: 6-[(2,6-dichlorophenyl)amino]-benzene-2,3,4,5-d_4-acetic acid
MF: $C_{14}H_7D_4Cl_2NO_2$
FW: 300.2
Chemical Purity: ≥99% (Diclofenac)
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

Diclofenac-d_4 is intended for use as an internal standard for the quantification of diclofenac (Item Nos. 70680 | 22983) 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).

Diclofenac-d_4 is supplied as a solid. A stock solution may be made by dissolving the diclofenac-d_4 in the solvent of choice, which should be purged with an inert gas. Diclofenac-d_4 is soluble in organic solvents such as ethanol and DMSO. The solubility of diclofenac-d_4 in these solvents is approximately 30 mg/ml.

Description

Diclofenac-d_4 is intended for use as an internal standard for the quantification of diclofenac (Item Nos. 70680 | 22983) by GC- or LC-MS. Diclofenac is a non-steroidal anti-inflammatory drug (NSAID) and COX inhibitor (IC_{50}s = 0.9-2.7 and 1.5-20 µM, for human COX-1 and COX-2, respectively).[1,2] It is also an active metabolite of diclofenac methyl ester (Item No. 22218) and diclofenac amide (Item No. 21969).[3,4] Diclofenac inhibits release of arachidonic acid (Item Nos. 90010 | 90010.1 | 10006607) induced by A23187 (Item No. 11016) in isolated rat peritoneal neutrophils and macrophages (IC_{50}s = 60 and 10 µM, respectively).[5] Transdermal administration of diclofenac inhibits carrageenan-induced paw edema in rats.[6] Formulations containing diclofenac have been used in the treatment of pain associated with osteoarthritis, rheumatoid arthritis, and ankylosing spondylitis.

References

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5. Kothari, H.V., Lee, W.H., and Ku, E.C. *Biochim. Biophys. Acta* **921(3)**, 502-511 (1987).
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