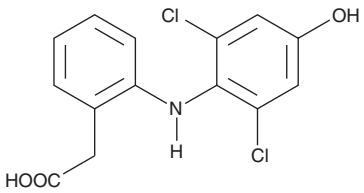
PRODUCT INFORMATION

4-hydroxy Diclofenac

Item No. 10008518

CAS Registry No.: 64118-84-9
Formal Name: 2-[(2,6-dichloro-4'-hydroxyphenyl) amino]-benzeneacetic acid
MF: $C_{14}H_{11}Cl_2NO_3$
FW: 312.2
Purity: ≥95%
UV/Vis.: λ_{max}: 271 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

4-hydroxy Diclofenac is supplied as a crystalline solid. A stock solution may be made by dissolving the 4-hydroxy diclofenac in the solvent of choice, which should be purged with an inert gas. 4-hydroxy Diclofenac is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 4-hydroxy diclofenac in these solvents is approximately 30 mg/ml.

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 4-hydroxy diclofenac can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 4-hydroxy diclofenac in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

4-hydroxy Diclofenac is an active metabolite of the non-steroidal anti-inflammatory drug (NSAID) and COX inhibitor diclofenac (Item Nos. 70680 | 22983).[1] It is formed from diclofenac by the cytochrome P450 (CYP) isoform CYP2C9 in human liver microsomes.[2] 4-hydroxy Diclofenac inhibits COX activity (IC_{50} = 32 nM) and reduces prostaglandin E_2 (PGE_2; Item No. 14010) production (IC_{50} = 17 nM) in isolated human rheumatoid synovial cells.[3]

References

1. Sawchuk, R.J., Maloney, J.A., Cartier, L.L., *et al.* Analysis of diclofenac and four of its metabolities in human urine by HPLC. *Pharmacol. Res.* **12(5)**, 756-762 (1995).
2. Yasar, U., Eliasson, E., Forslund-Bergengren, C., *et al.* The role of *CYP2C9* genotype in the metabolism of diclofenac in vivo and in vitro. *Eur. J. Clin. Pharmacol.* **57(10)**, 729-735 (2001).
3. Yamakazi, R., Kawai, S., Matsumoto, T., *et al.* Hydrolytic activity is essential for aceclofenac to inhibit cyclooxygenase in rheumatoid synovial cells. *J. Pharmacol. Exp. Ther.* **289(2)**, 676-681 (1999).

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.

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