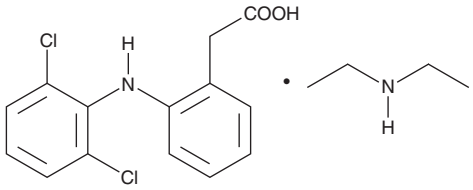
PRODUCT INFORMATION

Diclofenac (diethylamine)

Item No. 22983

CAS Registry No.: 78213-16-8
Formal Name: 2-[(2,6-dichlorophenyl)amino]-benzeneacetic acid compd. with *N*-monoethylethanamine
MF: $C_{14}H_{11}Cl_2NO_2 \bullet C_4H_{11}N$
FW: 369.3
Purity: ≥98%
UV/Vis.: λ_{max}: 283 nm
Supplied as: A crystalline solid
Storage: 4°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Diclofenac (diethylamine) is supplied as a crystalline solid. A stock solution may be made by dissolving the diclofenac (diethylamine) in the solvent of choice. Diclofenac (diethylamine) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of diclofenac (diethylamine) in DMSO is approximately 10 mg/ml and approximately 30 mg/ml in ethanol and DMF.

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 diclofenac (diethylamine) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of diclofenac (diethylamine) in PBS, pH 7.2, is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

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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3. Lobo, S., Li, H., Farhan, N., *et al. Drug Dev. Ind. Pharm.* **40(3)**, 425-432 (2014).
4. Hata, K., Hori, K., and Takahashi, S. *J. Nat. Prod.* **65(5)**, 645-648 (2002).
5. Kothari, H.V., Lee, W.H., and Ku, E.C. *Biochim. Biophys. Acta* **921(3)**, 502-511 (1987).
6. Arora, P. and Mukherjee, B. *J. Pharm. Sci.* **91(9)**, 2076-2089 (2002).

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