

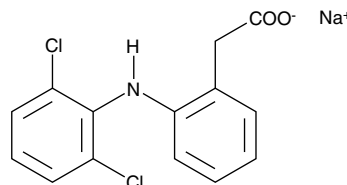
Product Information



Diclofenac (sodium salt)

Item No. 70680

CAS Registry No.: 15307-79-6
Formal Name: 2-[(2,6-dichlorophenyl)amino]-benzeneacetic acid, monosodium salt
Synonyms: Benfopen; Ecofenac; Voltaren
MF: C₁₄H₁₀Cl₂NO₂ • Na
FW: 318.1
Purity: ≥99%
Stability: ≥2 years at room temperature
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 285 nm



Laboratory Procedures

For long term storage, we suggest that diclofenac be stored as supplied at room temperature. It should be stable for at least 2 years.

Concentrated stock solutions of diclofenac can be prepared by dissolving the crystalline solid in an organic solvent such as ethanol, DMSO, or dimethyl formamide. The solubility of diclofenac in these solvents is approximately 35 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 solutions of diclofenac can be prepared by dissolving the crystalline solid in the buffer of choice. The solubility of diclofenac is approximately 9 mg/ml in buffers of ionic strength ≥ 0.1 M and pH ≥ 7.2. Use the aqueous solution within 12 hours.

Diclofenac is a non-selective inhibitor of the cyclooxygenase activity of Prostaglandin H synthase (PGHS).^{1,2} Diclofenac inhibits human recombinant PGHS-1 and PGHS-2 with IC₅₀ values of 0.9 and 1.5 μM, respectively.¹ Diclofenac inhibits ovine PGHS-1 and PGHS-2 with IC₅₀ values of 60 and 220 nM, respectively.² Daily oral administration of diclofenac (3 mg/kg) significantly inhibited arthritis in rats.³ Arthritic rats exhibited no gastrointestinal ulcers after treatment with diclofenac for 21 days.³

References

1. Barnett, J., Chow, J., Ives, D., *et al.* Purification, characterization and selective inhibition of human prostaglandin G/H synthase 1 and 2 expressed in the baculovirus system. *Biochim. Biophys. Acta* **1209**, 130-139 (1994).
2. Johnson, J.L., Wimsatt, J., Buckel, S.D., *et al.* Purification and characterization of prostaglandin H synthase-2 from sheep placental cotyledons. *Arch. Biochem. Biophys.* **324**, 26-34 (1995).
3. Cuzzolin, L., Conforti, A., Donini, M., *et al.* Effects on intestinal microflora, gastrointestinal tolerability and antiinflammatory efficacy of diclofenac and nitrofenac in adjuvant arthritic rats. *Pharmacol. Res.* **29**, 89-97 (1994).

Cayman Chemical

Mailing address
1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone
(800) 364-9897
(734) 971-3335

Fax
(734) 971-3640

E-Mail
custserv@caymanchem.com

Web
www.caymanchem.com

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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