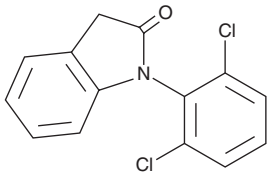
PRODUCT INFORMATION

Diclofenac amide

Item No. 21969

CAS Registry No.: 15362-40-0
Formal Name: 1-(2,6-dichlorophenyl)-1,3-dihydro-2H-indol-2-one
Synonyms: Diclofenac Lactam, 1-(2,6-Dichlorophenyl)oxindole, NSC 621845
MF: $C_{14}H_9Cl_2NO$
FW: 278.1
Purity: ≥98%
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

Diclofenac amide is supplied as a crystalline solid. A stock solution may be made by dissolving the diclofenac amide in the solvent of choice, which should be purged with an inert gas. Diclofenac amide is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of diclofenac amide in these solvents is approximately 35, 40, and 50 mg/ml, respectively.

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 amide can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of diclofenac amide in PBS, pH 7.2, is approximately 9 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Diclofenac amide is a prodrug form of the non-steroidal anti-inflammatory drug (NSAID) diclofenac (Item Nos. 70680 | 22983).[1] It decreases paw thickness in a rat model of carrageenan-induced paw edema when administered at a dose of 100 µmol/kg and decreases acetic acid-induced writhing in mice at 100 µmol/kg.[2] Diclofenac amide has reduced ulcerogenicity in rats compared to diclofenac. It is also a degradation product of diclofenac resulting from photo-transformation or spontaneous cyclization in strongly acidic pH conditions.[3,4] Diclofenac amide has been used as a synthetic intermediate in the synthesis of compounds with anticancer activity as well as compounds with COX-1, COX-2, and/or 5-lipoxygenase (5-LO) inhibitory activity.[5,6]

References

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2. Chung, M.C., dos Santos, J.L., Oliveira, E.V., *et al. Molecules* **14(9)**, 3187-3197 (2009).
3. Epold, I., Dulova, N., and Trapido, M. *J. Environ. Eng. Ecol. Sci.* **1(3)**, 1-8 (2012).
4. Mertz, N., Larsen, S.W., Kristensen, J., *et al. J. Pharm. Sci.* **105(10)**, 3079-3087 (2016).
5. Kaur, M. and Singh, P. *Bioorg. Med. Chem. Lett.* **29(1)**, 32-35 (2018).
6. Shaveta, Singh, A., Kaur, M., *et al. Eur. J. Med. Chem.* **77**, 185-192 (2014).

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