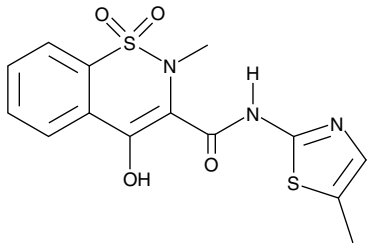
Product Information

Meloxicam

Item No. 14906

CAS Registry No.: 71125-38-7
Formal Name: 4-hydroxy-2-methyl-N-(5-methyl-2-thiazolyl)-1,1-dioxide-2H-1,2-benzothiazine-3-carboxamide
Synonyms: Coxicam, UH-AC 62XX
MF: $C_{14}H_{13}N_3O_4S_2$
FW: 351.4
Purity: ≥95%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 253, 348, 355 nm



Laboratory Procedures

For long term storage, we suggest that meloxicam be stored as supplied at -20°C. It should be stable for at least two years.

Meloxicam is supplied as a crystalline solid. A stock solution may be made by dissolving the meloxicam in the solvent of choice. Meloxicam is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of meloxicam in these solvents is approximately 20 mg/ml.

Meloxicam is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, meloxicam should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Meloxicam has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Meloxicam is a non-steroidal anti-inflammatory drug (NSAID) with selectivity for COX-2 (IC_{50} = 11.8 µM) over COX-1 (IC_{50} = 143 µM) in *in vitro* assays.[1] It shows potent anti-inflammatory, antipyretic, and analgesic effects with low gastrointestinal toxicity in animal models.[1-3] In adjuvant arthritis in the rat, meloxicam has been shown to inhibit acute exudation and leukocyte migration as well as to prevent bone and cartilage destruction.[4] Additionally, in clinical studies, meloxicam has shown reliable efficacy against rheumatoid arthritis.[5]

References

1. Ogino, K., Hatanaka, K., Kawamura, M., *et al.* Evaluation of pharmacological profile of meloxicam as an anti-inflammatory agent, with particular reference to its relative selectivity for cyclooxygenase-2 over cyclooxygenase-1. *Pharmacology* **55**, 44-53 (1997).
2. Jones, C.J., Streppa, H.K., Harmon, B.G., *et al. In vivo* effects of meloxicam and aspirin on blood, gasteric mucosal, and synovial fluid prosanoid synthesis in dogs. *Am. J. Vet. Res.* **63**, 1527-1531 (2002).
3. Cruz, R., Quintana-Hau, J.D., González, J.R., *et al.* Effects of an ophthalmic formulation of meloxicam on COX-2 expression, PGE_2 release, and cytokine expression in a model of acute ocular inflammation. *Br. J. Ophthalmol.* **92**, 120-125 (2008).
4. Engelhardt, G. Pharmacology of meloxicam, a new non-steroidal anti-inflammatory drug with an improved safety profile through preferential inhibition of COX-2. *Br. J. Rheumatol.* **35(1)**, 4-12 (1996).
5. Lemmel, E.-M., Bolten, W., Burgos-Vargas, R., *et al.* Efficacy and safety of meloxicam in patients with rheumatoid arthritis. *J. Rheumatol.* **24**, 282-290 (1997).

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