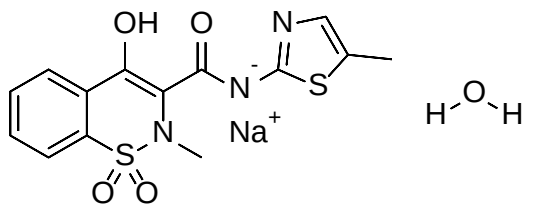
Product data sheet

MedKoo Cat#: 574779 Name: Meloxicam sodium salt hydrate CAS: 71125-39-8 Chemical Formula: $C_{14}H_{14}N_3NaO_5S_2$ Exact Mass: 391.0273 Molecular Weight: 391.3918	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
Meloxicam sodium salt hydrate is a non-steroidal anti-inflammatory drug (NSAID) and cyclooxygenase-2 (COX-2) inhibitor that may be useful in treating inflammation and pain.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
TBD	TBD	TBD

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.55 mL	12.77 mL	25.55 mL
5 mM	0.51 mL	2.55 mL	5.11 mL
10 mM	0.26 mL	1.28 mL	2.55 mL
50 mM	0.05 mL	0.26 mL	0.51 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Iturriaga MP, Paredes R, Arias JI, Torres CG. Meloxicam decreases the migration and invasion of CF41.Mg canine mammary carcinoma cells. Oncol Lett. 2017 Aug;14(2):2198-2206. doi: 10.3892/ol.2017.6400. Epub 2017 Jun 16. PMID: 28781660; PMCID: PMC5530185.
2. Naruse T, Nishida Y, Hosono K, Ishiguro N. Meloxicam inhibits osteosarcoma growth, invasiveness and metastasis by COX-2-dependent and independent routes. Carcinogenesis. 2006 Mar;27(3):584-92. doi: 10.1093/carcin/bgi240. Epub 2005 Oct 11. PMID: 16219634.

In vivo study

1. de Grauw JC, van de Lest CH, Brama PA, Rambags BP, van Weeren PR. In vivo effects of meloxicam on inflammatory mediators, MMP activity and cartilage biomarkers in equine joints with acute synovitis. Equine Vet J. 2009 Sep;41(7):693-9. doi: 10.2746/042516409x436286. PMID: 19927589.
2. Jones CJ, Streppa HK, Harmon BG, Budsberg SC. In vivo effects of meloxicam and aspirin on blood, gastric mucosal, and synovial fluid prostanoid synthesis in dogs. Am J Vet Res. 2002 Nov;63(11):1527-31. doi: 10.2460/ajvr.2002.63.1527. PMID: 12428662.

7. Bioactivity
Biological target:

Product data sheet

Meloxicam sodium is a non-steroidal anti-inflammatory agent, inhibits COX activity, with IC_{50}s of 0.49 μM and 36.6 μM for COX-2 and COX-1, respectively.

In vitro activity

In the current study, the in vitro effects of low-dose meloxicam (0.25 μg/ml) on CF41.Mg canine mammary carcinoma cells were evaluated. Cell migration and invasion were significantly reduced following treatment with meloxicam. These results indicate that 0.25 μg/ml meloxicam reduces cell migration and invasion, in part through modulating MMP-2 and β-catenin expression.

Reference: Oncol Lett. 2017 Aug;14(2):2198-2206. https://pubmed.ncbi.nlm.nih.gov/28781660/

In vivo activity

In a 2-period cross-over study, synovitis was induced at T = 0 h in the L or R intercarpal joint of 6 horses by intraarticular injection of 0.5 ng lipopolysaccharide (LPS). Horses received once daily meloxicam (0.6 mg/kg bwt per os) or placebo starting at post injection hour (PIH) 2, and clinical evaluations as well as blood and synovial fluid (SF) sampling were performed at PIH 0, 8, 24 and 168. Meloxicam caused a significant reduction in lameness at PIH 8 and 24 and tended to reduce effusion. In addition, meloxicam significantly suppressed SF prostaglandin E2 and substance P release at PIH 8 and bradykinin at PIH 24 compared to placebo treatment.

Reference: Equine Vet J. 2009 Sep;41(7):693-9. https://pubmed.ncbi.nlm.nih.gov/19927589/