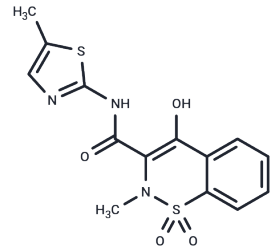
Data Sheet (Cat.No.T0826)

TargetMol

Meloxicam

Chemical Properties



CAS No. : 71125-38-7

Formula: C14H13N3O4S2

Molecular Weight: 351.40

Storage: Store at low temperature
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Meloxicam (Metacam) is a Nonsteroidal Anti-inflammatory Drug. The mechanism of action of meloxicam is as a Cyclooxygenase Inhibitor. The chemical classification of meloxicam is Nonsteroidal Anti-inflammatory Compounds.
Targets(IC50)	Apoptosis,MMP,Autophagy,COX
In vitro	In horses, administration of Meloxicam significantly reduced lameness at both 8 and 24 hours post-injection and showed a tendency to decrease exudation. Compared to placebo, Meloxicam markedly inhibited the release of prostaglandin E2 and substance P in the synovial fluid 8 hours post-injection and reduced bradykinin release at 24 hours. Additionally, Meloxicam decreased average matrix metalloproteinase activity in the equine system at both 8 and 24 hours post-administration. Horses treated with Meloxicam or phenylbutazone showed improved postoperative pain and clinical outcomes compared to those treated with saline solution (SS). Meloxicam also induced a substantial infiltration of neutrophils in ischemic lesion tissues in horses. In dogs, Meloxicam significantly reduced concentrations of prostaglandin E2 in the blood and synovial fluid on days 7 and 21 post-administration, with no significant effect on thromboxane B2 (TXB2) levels in the blood or prostaglandin E2 (PGE2) concentrations in the gastric mucosa. Furthermore, Meloxicam inhibited tumor growth and pulmonary metastasis of LM-8 cells in mice.
In vivo	Meloxicam induces apoptosis in MG-63 cell cultures, concurrently upregulating both Bax mRNA and protein levels. It significantly reduces colony size in HCA-7 and Moser-S cells. While it markedly inhibits colony formation and tumor growth in HCA-7 cells, Meloxicam shows no effect on the growth of COX-2 negative HCT-116 cells. Furthermore, Meloxicam suppresses PGE(2) production, proliferation, and invasiveness, particularly in MG-63 cells expressing relatively higher levels of COX-2.

Solubility Information

Solubility	Ethanol: < 1 mg/mL (insoluble or slightly soluble), DMSO: 10.64 mg/mL (30.28 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (2.85 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.8458 mL	14.2288 mL	28.4576 mL
5 mM	0.5692 mL	2.8458 mL	5.6915 mL
10 mM	0.2846 mL	1.4229 mL	2.8458 mL
50 mM	0.0569 mL	0.2846 mL	0.5692 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

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Naruse T, et al. Carcinogenesis, 2006, 27(3), 584-592.
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