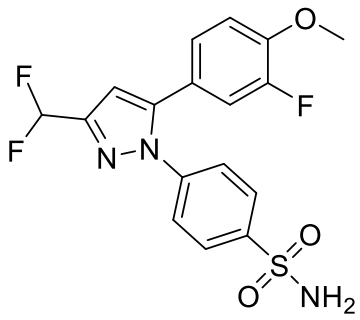
Product data sheet

MedKoo Cat#: 540103 Name: Deracoxib CAS#: 169590-41-4 Chemical Formula: $C_{17}H_{14}F_3N_3O_3S$ Exact Mass: 397.0708 Molecular Weight: 397.37	
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:
Deracoxib is an NSAID and COX-2 inhibitor used to treat osteoarthritis. It induces cell cycle arrest and apoptosis in mammary tumor cells, decreases platelet aggregation, and lowers inflammatory responses.

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
DMSO	65.0	163.58

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.52 mL	12.58 mL	25.17 mL
5 mM	0.50 mL	2.52 mL	5.03 mL
10 mM	0.25 mL	1.26 mL	2.52 mL
50 mM	0.05 mL	0.25 mL	0.50 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. Ustün Alkan F, Ustüner O, Bakırel T, Cınar S, Erten G, Deniz G. The effects of piroxicam and deracoxib on canine mammary tumour cell line. ScientificWorldJournal. 2012;2012:976740. doi: 10.1100/2012/976740. Epub 2012 Nov 7. PMID: 23251109; PMCID: PMC3518048.
2. Royals SR, Farese JP, Milner RJ, Lee-Ambrose L, van Gilder J. Investigation of the effects of deracoxib and piroxicam on the in vitro viability of osteosarcoma cells from dogs. Am J Vet Res. 2005 Nov;66(11):1961-7. doi: 10.2460/ajvr.2005.66.1961. PMID: 16334957.

In vivo study

1. Bienhoff SE, Smith ES, Roycroft LM, Roberts ES. Efficacy and safety of deracoxib for control of postoperative pain and inflammation associated with soft tissue surgery in dogs. Vet Surg. 2012 Apr;41(3):336-44. doi: 10.1111/j.1532-950X.2011.00942.x. Epub 2012 Jan 6. PMID: 22225463.
2. McMillan SK, Boria P, Moore GE, Widmer WR, Bonney PL, Knapp DW. Antitumor effects of deracoxib treatment in 26 dogs with transitional cell carcinoma of the urinary bladder. J Am Vet Med Assoc. 2011 Oct 15;239(8):1084-9. doi: 10.2460/javma.239.8.1084. PMID: 21985349.

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7. Bioactivity

Biological target:

Deracoxib, a selective cyclooxygenase-2 inhibitor, is a non-narcotic, non-steroidal anti-inflammatory drug (NSAID).

In vitro activity

The aim of this study was to determine the direct antiproliferative effects of nonsteroidal anti-inflammatory drugs (NSAIDs), piroxicam and deracoxib, at a variety of concentrations as both single and combined treatments on canine mammary carcinoma cell line CMT-U27 and to understand the mechanisms of cell death. fter 72 h incubation, significant reductions were seen at 250, 500, and 1000 μM doses of deracoxib by 16.49%, 16.64%, and 40.69% of the control level, respectively. The apoptotic cell number of CMT-U27 cells after 72 h incubation in the presence or absence of piroxicam and deracoxib at various concentrations (50–1000 μM) was shown in Figure 3. Deracoxib at 250 μM, and higher concentrations ($P < 0.01$, $P < 0.001$) decreased the number of viable cells and increased the number of apoptotic cells as a sum of early and late apoptotic cells significantly.

Reference: ScientificWorldJournal. 2012;2012:976740. https://pubmed.ncbi.nlm.nih.gov/23251109/

In vivo activity

The objective of this study was to evaluate the antitumor activity and toxic effects of deracoxib, a selective cyclooxygenase-2 inhibitor, in dogs with transitional cell carcinoma (TCC) of the urinary bladder. Dogs were treated PO with deracoxib at a dosage of 3 mg/kg/d (1.36 mg/lb/d) as a single-agent treatment for TCC. f 24 dogs for which tumor response was assessed, 4 (17%) had partial remission, 17 (71%) had stable disease, and 3 (13%) had progressive disease; initial response could not be assessed in 2 of 26 dogs. The median survival time was 323 days. Median time to progressive disease was 133 days. Renal, hepatic, and gastrointestinal abnormalities attributed to deracoxib administration were noted in 4% (1/26), 4% (1/26), and 19% (5/26) of dogs, respectively. These results indicated that deracoxib was generally well tolerated by dogs and had antitumor activity against TCC.

Reference: J Am Vet Med Assoc. 2011 Oct 15;239(8):1084-9. https://pubmed.ncbi.nlm.nih.gov/21985349/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.