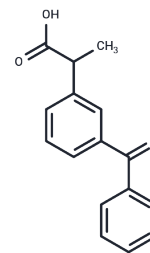


## Ketoprofen

## Chemical Properties

CAS No. :	22071-15-4
Formula:	C <sub>16</sub> H <sub>14</sub> O <sub>3</sub>
Molecular Weight:	254.28
Storage:	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	Ketoprofen (RP-19583) is a propionic acid derivative and nonsteroidal anti-inflammatory drug (NSAID) with anti-inflammatory, analgesic, and antipyretic effects. It inhibits cyclo-oxygenase I and II, decreasing the formation of prostaglandin and thromboxane precursors. This reduction in prostaglandin synthesis, mediated by prostaglandin synthase, is responsible for its therapeutic effects. Additionally, Ketoprofen decreases thromboxane A <sub>2</sub> formation via thromboxane synthase, inhibiting platelet aggregation.
Targets(IC50)	Apoptosis, COX, MRP
In vitro	Ketoprofen combined with UVB irradiation induces the cytotoxicity and suppresses DNA synthesis in HaCaT cells in a concentration-dependent manner. Ketoprofen combined with UVB irradiation inhibits the cell growth and induces G <sub>2</sub> /M cell cycle arrest by modulating the levels of cdc2, cyclin B1, Chk1, Tyr15-phosphorylated cdc2 and p21. Ketoprofen combined with UVB irradiation also provokes a striking accumulation of cyclin B1-cdc2-p21 complexes, concomitantly with an increase in the levels of Tyr15-phosphorylated cdc2 and p21 protein. Ketoprofen combined with UVB irradiation accentuates the apoptotic response to UVB radiation in HaCaT cells as evidenced by DAPI staining. [1]
In vivo	Ketoprofen at 1% level in suitable topical vehicles can effectively inhibit GCF-LTB <sub>4</sub> and GCF-PGE <sub>2</sub> and positively alter alveolar bone activity in the ligature-induced model of periodontitis in the monkey. [2] Ketoprofen (3.63 mg/kg bwt) reduces hoof pain and lameness to a greater extent than the 2.2 mg/kg dose and phenylbutazone. [3] Ketoprofen is more effective than local anesthesia (LA), or caudal epidural anesthesia (EPI) in decreasing cortisol and partially reverses the reduction in average daily gain (ADG) following castration. [4] Ketoprofen (40 and 80 mg/kg diet) reduces the incidence of transitional cell carcinoma of the urinary bladder by >70% from that seen in dietary mice. [5]

## Solubility Information

Solubility	Ethanol: 48 mg/mL (188.77 mM), Sonication is recommended. DMSO: 250 mg/mL (983.17 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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In vivo Formulation	<p>10% DMSO+90% Saline: &lt; 10 mg/mL (39.33 mM), Lower concentrations may be soluble, but exact solubility limit is unknown.</p> <p>10% DMSO+40% PEG300+5% Tween 80+45% Saline: 10 mg/mL (39.33 mM), Solution.</p> <p><i>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.</i></p>
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.9327 mL	19.6634 mL	39.3267 mL
5 mM	0.7865 mL	3.9327 mL	7.8653 mL
10 mM	0.3933 mL	1.9663 mL	3.9327 mL
50 mM	0.0787 mL	0.3933 mL	0.7865 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

Liu S, et al. Biochem Biophys Res Commun, 2007, 364(3), 650-655.  
 Li KL, et al. J Periodontal Res, 1996, 31(8), 525-532.  
 Owens JG, et al. Equine Vet J, 1995, 27(4), 296-300.  
 Ting ST, et al. J Anim Sci, 2003, 81(5), 1281-1293.  
 Rao KV, et al. Carcinogenesis, 1996, 17(7), 1435-1438.  
 Negus SS, et al. Effects of ketoprofen, morphine, and kappa opioids on pain-related depression of nesting in mice. Pain. 2015 Jun;156(6):1153-60.

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