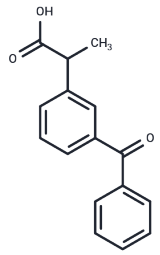
# Data Sheet (Cat.No.T0839)

TargetMol

## Ketoprofen

### Chemical Properties



CAS No. : 22071-15-4

Formula: C16H14O3

Molecular Weight: 254.28

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

### 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 A2 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 G2/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-LTB4 and GCF-PGE2 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 andlameness 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.<br>DMSO: 55 mg/mL (216.3 mM),Sonication is recommended.<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |

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.

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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