**Product Data Sheet**

### Chemical Properties

**Product Name:** (S)-Ketoprofen  
**Cas No.:** 22161-81-5  
**M.Wt:** 254.3  
**Formula:** C16H14O3  
**Synonyms:** (S)-2-(3-benzoylphenyl)Propionic Acid, Dexketoprofen  
**Chemical Name:** (S)-3-benzoyl-α-methyl-benzeneacetic acid  
**Canonical SMILES:** O=C(C1=CC=CC([C@H](C)C(O)=O)=C1)C2=CC=CC=C2  
**Solubility:** ≥10.6mg/mL in DMSO  
**Storage:** Store at -20°C  
**General tips:** For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.  
**Shopping Condition:** Evaluation sample solution: ship with blue ice  
All other available size: ship with RT, or blue ice upon request

### Biological Activity

**Targets:** Neuroscience  
**Pathways:** COX  
**Description:**  
(S)-Ketoprofen, a dual COX1/2 inhibitor, can be used as a nonsteroidal anti-inflammatory drug to treat arthritis-related inflammatory pains. Ketoprofen is photolabile and undergoes degradation when irradiated by sunlight to induce various skin diseases [1].  

In vitro: The combination of UVB irradiation with ketoprofen dose-dependently induced the cytotoxicity and suppressed DNA synthesis in HaCaT cells. UVB-irradiated KP inhibited the cell
growth and induced G2/M cell cycle arrest by regulating the levels of cdc2, cyclin B1, Chk1, Tyr15-phosphorylated cdc2 and p21. The DAPI staining results has revealed that KP accentuated the apoptotic response to UVB radiation in HaCaT cells [1].

In vivo: In a placebo-controlled, double-blind study in the rhesus monkeys Macaca mulatta with periodontal disease, administration of KP at 1% level in suitable topical vehicles to the gingiva once daily at a standard dose of 1.8 ml per monkey for 6 months effectively inhibited GCF-LTB4 and GCF-PGE2 and positively altered alveolar bone activity [2]. Ketoprofen at a dose of 3.63 mg/kg bwt (phenylbutazone equimolar dose) showed significant analgesic effects and reduced hoof pain and lameness to a greater extent [3]. Treatment with Ketoprofen (40 and 80 mg/kg diet) greatly reduced the incidence of transitional cell carcinoma of the urinary bladder by >70% from that seen in dietary mice [4].

Reference:

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.