Product Data Sheet

Product Name: Ketorolac
Cat. No.: GC15179

Chemical Properties

Cas. No.	74103-06-3		
Chemical Name	5-benzoyl-2,3-dihydro-1H-pyrrolizine-1-carboxylic acid		
SMILES	C1CN2C(=CC=C2C(=O)C3=CC=CC=C3)C1C(=O)O		
Formula	$C_{15}H_{13}NO_3$	M.Wt	255.27
Solubility	≥ 12.76mg/mL in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Ketorolac		

Protocol

Animal experiment:

Rats[2]Treated rats receive oral doses of 1 mL aqueous solution of paracetamol (80 mg/kg/rat/day), Ketorolac (4 mg/kg/day) or etoricoxib (10 mg/kg/day) administered by gavage from the day of surgery until death, 2 weeks later. Control rats receive tap water (1 mL/day by gavage). The animals are housed under climate-controlled environment (12 h light/12 h dark, 20-24ºC) with free access to standard laboratory chow and tap water[2].

Caution: Product has not been fully validated for medical applications. For research use only.
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References:

[1]. Waterbury LD, et al. Comparison of cyclooxygenase inhibitory activity and ocular anti-inflammatory effects of ketorolac tromethamine and bromfenac sodium. Curr Med Res Opin. 2006 Jun;22(6):1133-40.
[2]. Fracon RN, et al. Treatment with paracetamol, ketorolac or etoricoxib did not hinder alveolar bone healing: a histometric study in rats. J Appl Oral Sci. 2010 Dec;18(6):630-4.
[3]. Hsieh YC, et al. Intrathecal ketorolac pretreatment reduced spinal cord ischemic injury in rats. Anesth Analg. 2005 Apr;100(4):1134-9.

Background

Ketorolac is a non-steroidal anti-inflammatory agent, acting as a nonselective COX inhibitor, with IC50s of 20 nM for COX-1 and 120 nM for COX-2.

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Ketorolac tromethamine (0.4%) causes nearly complete inhibition on LPS endotoxin-

induced increases in FITC-dextran in the anterior chamber, and increases in aqueous PGE2 concentrations in the aqueous humor in rabbits[1].Ketorolac (30 mg/kg, i.v.) rapidly reverses hyperalgesia in rats. Ketorolac also reduces carrageenan-induced hyperalgesia and paw PG production, and causes reduction in PGE2 levels in rats[1]. Ketorolac (4 mg/kg/day, p.o.) has no detrimental effect in the volume fraction of bone trabeculae formed inside the alveolar socket in rats[2]. Ketorolac (60 μg/10 μL) reduces the histological changes such as ischemic cell death, including cytoplasmic eosinophilia with disintegration of cytoarchitecture and nuclear pyknosis in rats. Ketorolac also effectively reduces neuronal death and improves hindlimb motor function, and the long-term survival is similar to that in the control group[3].

References:

[1]. Waterbury LD, et al. Comparison of cyclooxygenase inhibitory activity and ocular anti-inflammatory effects of ketorolac tromethamine and bromfenac sodium. Curr Med Res Opin. 2006 Jun;22(6):1133-40.
[2]. Fracon RN, et al. Treatment with paracetamol, ketorolac or etoricoxib did not hinder alveolar bone healing: a histometric study in rats. J Appl Oral Sci. 2010 Dec;18(6):630-4.
[3]. Hsieh YC, et al. Intrathecal ketorolac pretreatment reduced spinal cord ischemic injury in rats. Anesth Analg. 2005 Apr;100(4):1134-9.