Ketorolac tromethamine salt

Cat. No.: HY-B0138
CAS No.: 74103-07-4
Molecular Formula: C₁₉H₂₄N₂O₆
Molecular Weight: 376.4
Target: COX
Pathway: Immunology/Inflammation
Storage: 4°C, protect from light
* In solvent: -80°C, 6 months; -20°C, 1 month (protect from light)

### SOLVENT & SOLUBILITY

#### In Vitro

<table>
<thead>
<tr>
<th>Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>2.6567 mL</td>
<td>13.2837 mL</td>
<td>26.5675 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.5313 mL</td>
<td>2.6567 mL</td>
<td>5.3135 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.2657 mL</td>
<td>1.3284 mL</td>
<td>2.6567 mL</td>
</tr>
</tbody>
</table>

* "≥" means soluble, but saturation unknown.

Please refer to the solubility information to select the appropriate solvent.

#### In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (5.53 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (5.53 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (5.53 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Ketorolac tromethamine salt (RS37619 tromethamine salt) 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.

#### IC₅₀ & Target

<table>
<thead>
<tr>
<th>In Vitro</th>
<th>COX-1</th>
<th>COX-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>IC₅₀</td>
<td>20 nM (IC₅₀)</td>
<td>120 nM (IC₅₀)</td>
</tr>
</tbody>
</table>

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[1].

**In Vivo**

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].

**PROTOCOL**

**Animal Administration**[2]

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]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**REFERENCES**


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

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