Tolmetin sodium dihydrate

Cat. No.: HY-B1489
CAS No.: 64490-92-2
Molecular Formula: C₁₅H₁₈NNaO₅
Molecular Weight: 315.3
Target: COX
Pathway: Immunology/Inflammation
Storage:
- Powder: -20°C for 3 years, 4°C for 2 years
- In solvent: -80°C for 6 months, -20°C for 1 month

**SOLVENT & SOLUBILITY**

In Vitro:
H₂O: ≥ 100 mg/mL (317.16 mM)

*“≥” means soluble, but saturation unknown.*

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent Concentration</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 mg</td>
<td>5 mg</td>
</tr>
<tr>
<td>1 mM</td>
<td>3.1716 mL</td>
<td>15.8579 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.6343 mL</td>
<td>3.1716 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.3172 mL</td>
<td>1.5858 mL</td>
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</tbody>
</table>

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

**BIOLOGICAL ACTIVITY**

**Description**
Tolmetin sodium dihydrate is a non-steroidal antiinflammatory agent, and acts as a non-selective COX inhibitor.

**IC₅₀ & Target**
COX

**In Vitro**
Tolmetin sodium dihydrate is a non-steroidal antiinflammatory agent. Tolmetin (0-100 μM) shows no effect on osteoblast growth[2]. Tolmetin (0.25 mM) does not attenuate lipid peroxidation in rat brain homogenate. Tolmetin (0.25, 0.5, 0.75, 1 mM) shows radical scavenging properties but without superoxide anion generation in rat brain homogenate[3].

**In Vivo**
Tolmetin (100 mg/kg) causes gastric lesions, and shows maximal ulcerogenic effect 4 h after the single dose, while potently decreases after 3 and 14 days of repeated administration. Tolmetin produces obvious endothelial damage and inflammatory cell infiltration[1]. Tolmetin (5 mg/kg, i.p., twice a day for 5 days) has no effect on n NMDA receptor binding in rats[3].
Rats\(^1\)

After 2 weeks of acclimatization, rats are randomized to different groups and given the non-selective COX inhibitors, amtolmetin guacyl (AMG) (50 and 150 mg/kg) and Tolmetin (30 and 100 mg/kg) as well as the selective COX-2 inhibitor, celecoxib (CXIB; 20 and 60 mg/kg). The compounds are suspended in 1\% carboxymethylcellulose (CMC) immediately before use and administered by gavage in a 10-mL/kg volume. Control groups receive CMC in the same volume. Rats from each group are divided into 3 subgroups, consisting each of at least 10 animals. Subgroups are dosed either with a single dose (acute treatment group) or twice daily for 3 and 14 days (chronic treatment groups). To ensure that all groups are dosed for the same period of time, those receiving less than 14 days of NSAIDs are given CMC until they are due to start the assigned treatment. Rats are killed by cervical dislocation 4 h after the last administration. Stomachs are immediately removed, opened along the lesser curvature and gently rinsed\(^1\).

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

REFERENCES

