Otenaproxesul

**Cat. No.:** HY-15028  
**CAS No.:** 1226895-20-0  
**Molecular Formula:** C$_{21}$H$_{19}$NO$_3$S  
**Molecular Weight:** 365.45  
**Target:** COX; Apoptosis  
**Pathway:** Immunology/Inflammation; Apoptosis  
**Storage:** Powder  
-20°C: 3 years  
4°C: 2 years  
In solvent  
-80°C: 2 years  
-20°C: 1 year

**SOLVENT & SOLUBILITY**

In **In Vitro**

DMSO: $\geq 51.6$ mg/mL (141.20 mM)  
* "$\geq$" means soluble, but saturation unknown.

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Mass</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td></td>
<td>2.7364 mL</td>
<td>13.6818 mL</td>
<td>27.3635 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td></td>
<td>0.5473 mL</td>
<td>2.7364 mL</td>
<td>5.4727 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td></td>
<td>0.2736 mL</td>
<td>1.3682 mL</td>
<td>2.7364 mL</td>
</tr>
</tbody>
</table>

Preparing Stock Solutions

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

In **In Vivo**

1. Add each solvent one by one: 10% DMSO $>>$ 40% PEG300 $>>$ 5% Tween-80 $>>$ 45% saline

Solubility: $\geq 2.5$ mg/mL (6.84 mM); Clear solution

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**BIOLOGICAL ACTIVITY**

**Description**

Otenaproxesul (ATB-346), an orally active non-steroidal anti-inflammatory drug (NSAID), inhibits cyclooxygenase-1 and 2 (COX-1 and 2). Otenaproxesul possesses antiinflammatory and antinociceptive activities$^{[1][4]}$.

**IC$_{50}$ & Target**

<table>
<thead>
<tr>
<th>IC$_{50}$</th>
<th>COX-1</th>
<th>COX-2</th>
</tr>
</thead>
</table>

**In Vitro**

Otenaproxesul (100 $\mu$M) inhibits human melanoma cell proliferation by inhibiting pro-survival pathways associated with NF-B and Akt activation$^{[2]}$.

Otenaproxesul (100 $\mu$M) induces apoptosis of human melanoma cells$^{[2]}$.

Otenaproxesul (100 M) causes inhibition of IkB degradation and of NF-kB nuclear translocation as demonstrated by a reduction in band intensity of the p65 subunit in A375 cells$^{[2]}$.

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

**Cell Line:** A375 cells.

**Concentration:** 100 μM.

**Incubation Time:** 24, 48 and 72 h.

**Result:** Caused an inhibition of cell proliferation by 38.2%, 63.2% and 66%, respectively (P < 0.001).

**In Vivo**

Otenaproxesul exhibits anti-inflammatory properties similar to naproxen, but with substantially reduced gastrointestinal toxicity[1].

Otenaproxesul (orally, 43 μmol/kg) inhibits growth of melanoma tumors in vivo and reduce plasma levels of melanoma-associated chemokines[2].

Otenaproxesul (orally, 16 mg/kg) results in significant inhibition of bone defect and other histological characteristics (such as flatness of the gingival epithelium, chronic inflammatory cell infiltration and loss of connective tissue in the gingival papillae). Otenaproxesul inhibits the increase of gingival IL-1β and IL-6 secondary to periodontitis, but IL-10 is unaffected[3].

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

**Animal Model:** Male, Wistar rats (200-225 g)[1].

**Dosage:** 30, 60, 120 and 2740 μmol/kg.

**Administration:** Orally once.

**Result:** Inhibited PGE2 levels. Suppressed TXB2 synthesis.

**Animal Model:** Male, Wistar rats (200-225 g)[1].

**Dosage:** 4 μmol/kg.

**Administration:** Orally twice daily, on days 7 to 21.

**Result:** Significantly reduced paw oedema at days 14 and 21 (*P < 0.05 vs. the vehicle-treated group). Caused markedly less gastric damage at all doses tested than naproxen.

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**REFERENCES**


