(+)-Cloprostenol

Cat. No.: HY-107381
CAS No.: 54276-21-0
Molecular Formula: \( \text{C}_{22}\text{H}_{29}\text{ClO}_{6} \)
Molecular Weight: 424.92
Target: Prostaglandin Receptor
Pathway: GPCR/G Protein

Storage:
- Pure form: -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

Ethanol: 50 mg/mL (117.67 mM; Need ultrasonic)

Preparing Stock Solutions

<table>
<thead>
<tr>
<th>Solvent Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>2.3534 mL</td>
<td>11.7669 mL</td>
<td>23.5338 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.4707 mL</td>
<td>2.3534 mL</td>
<td>4.7068 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.2353 mL</td>
<td>1.1767 mL</td>
<td>2.3534 mL</td>
</tr>
</tbody>
</table>

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

In Vivo

1. Add each solvent one by one: 10% EtOH >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (5.88 mM); Clear solution
2. Add each solvent one by one: 10% EtOH >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.88 mM); Clear solution
3. Add each solvent one by one: 10% EtOH >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.88 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
(+)-Cloprostenol is a prostaglandin F2\( \alpha \) (PGF2\( \alpha \)) analogue, and shows selective agonistic activity at the prostaglandin receptor.

IC\( _{50} \) & Target
PGF\( _{2\alpha} \)

In Vitro
D-Cloprostenol and PGF2 alpha are equipotent, about 150 times more potent than dl-cloprostenol (\( P < 0.05 \)) and
approximately 280 times more potent than PGE1 in inhibiting[^3H]PGF2 alpha binding to corpus luteum cell membranes. However, d-cloprostenol and PGF2 alpha are about 10 times more potent than dl-cloprostenol and approximately 95 times more potent than PGE1 in myometrial cell membranes[^2].

<table>
<thead>
<tr>
<th>In Vivo</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-cloprostenol (15 g per head) is the lowest dose that consistently achieves abortion; D-cloprostenol causes mild adverse effects including salivation, defecation and hyperventilation in bitches weighing less than 10 kg. Intra-vesicle administration of a single low dose of d-cloprostenol is a safe and successful technique to induce abortion in the bitch[^1].</td>
</tr>
</tbody>
</table>

**REFERENCES**
