Solriamfetol hydrochloride

Cat. No.: HY-109043A
CAS No.: 178429-65-7
Molecular Formula: C₁₀H₁₅ClN₂O₂
Molecular Weight: 230.69
Target: Dopamine Receptor
Pathway: GPCR/G Protein; Neuronal Signaling
Storage: Powder -20°C 3 years
        4°C  2 years
        In solvent -80°C 6 months
        -20°C  1 month

SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (1083.71 mM; Need ultrasonic)

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 mM</td>
<td>4.3348 mL</td>
<td>21.6741 mL</td>
<td>43.3482 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.8670 mL</td>
<td>4.3348 mL</td>
<td>8.6696 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.4335 mL</td>
<td>2.1674 mL</td>
<td>4.3348 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% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (9.02 mM); Clear solution

2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (9.02 mM); Clear solution

3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (9.02 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
Solriamfetol hydrochloride (JZP-110 hydrochloride) is an orally active and selective dopamine and norepinephrine reuptake inhibitor with IC₅₀s of 2.9 μM and 4.4 μM for dopamine and norepinephrine transporters, respectively. Solriamfetol hydrochloride has robust wake-promoting effects[1][2].

IC₅₀ & Target
IC₅₀: 2.9 μM (dopamine transporter) and 4.4 μM (norepinephrine transporter)[1]
<table>
<thead>
<tr>
<th>In Vitro</th>
<th>Solriamfetol hydrochloride (JZP-110 hydrochloride) has the binding affinity for dopamine transporter (DAT; $K_i = 14,200 \text{nM}$) and norepinephrine transporter (NET; $K_i = 3700 \text{nM}$)(^1).</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Vivo</td>
<td>Solriamfetol hydrochloride (JZP-110 hydrochloride; s.c.; 10, 30 mg/kg; eight consecutive 50-minute) increases DA and NE levels in the striatum and prefrontal cortex, respectively(^1). Solriamfetol hydrochloride (i.p.; 3, 10, 30, 100 mg/kg) dose dependently decreases the rate of responding. Solriamfetol of 100 mg/kg results in a significant decrease in response rate to approximately 40% of control(^1). Solriamfetol hydrochloride (po; 35 mg/kg) produces a plasma Cmax of 23.1 $\mu\text{M}$(^1).</td>
</tr>
<tr>
<td>Animal Model:</td>
<td>Male Sprague-Dawley rats weighing 200-400 g(^1)</td>
</tr>
<tr>
<td>Dosage:</td>
<td>10 and 30 mg/kg</td>
</tr>
<tr>
<td>Administration:</td>
<td>S.c.; eight consecutive 50-minute</td>
</tr>
<tr>
<td>Result:</td>
<td>Increased DA and NE levels in the striatum and prefrontal cortex, respectively.</td>
</tr>
</tbody>
</table>

REFERENCES
