Tipepidine hydrochloride

Cat. No.: HY-121685A  
CAS No.: 1449686-84-3  
Molecular Formula: C₁₅H₁₈ClNS₂  
Molecular Weight: 311.89  
Target: Potassium Channel  
Pathway: Membrane Transporter/Ion Channel  
Storage: Powder  
Storage Temp.: -20°C 3 years  
Storage Temp.: 4°C 2 years  
Storage Temp.: -80°C 6 months  
Storage Temp.: -20°C 1 month  

SOLVENT & SOLUBILITY

In Vitro  
DMSO: 41.67 mg/mL (133.60 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>3.2063 mL</td>
<td>16.0313 mL</td>
<td>32.0626 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.6413 mL</td>
<td>3.2063 mL</td>
<td>6.4125 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.3206 mL</td>
<td>1.6031 mL</td>
<td>3.2063 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 (6.67 mM); Clear solution

2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
   Solubility: ≥ 2.08 mg/mL (6.67 mM); Clear solution

3. Add each solvent one by one: 10% DMSO >> 90% corn oil  
   Solubility: ≥ 2.08 mg/mL (6.67 mM); Clear solution

BIOLOGICAL ACTIVITY

Description  
Tipepidine hydrochloride reversibly inhibits dopamine (DA) D₂ receptor-mediated GIRK currents (Iₚ⁡ₐ[GIRK]) with an IC₅₀ of 7.0 μM. Tipepidine hydrochloride subsequently activates VTA dopamine neuron[1]. Tipepidine hydrochloride, a non-narcotic antitussive, exerts an antidepressant-like effect[2].

IC₅₀ & Target  
IC₅₀: 7.0 μM (dopamine D₂ receptor)[1]
# In Vivo

Tipepidine (i.p.; 10-40 mg/kg; 0.5-23 hours) significantly decreases the immobility time in the forced swimming test in ACTH-treated rats. Tipepidine (i.p.; 40 mg/kg) increases the extracellular dopamine level of the nucleus accumbens (NAc) in ACTH-treated rats\(^2\).

<table>
<thead>
<tr>
<th>Animal Model</th>
<th>Male Wistar rats weighting 150-240 g (5-7 weeks old) (^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dosage</td>
<td>10, 20 and 40 mg/kg</td>
</tr>
<tr>
<td>Administration</td>
<td>I.p.; 0.5, 5, 23 hours</td>
</tr>
<tr>
<td>Result</td>
<td>Decreased the immobility time in the forced swimming test in ACTH-treated rats.</td>
</tr>
</tbody>
</table>

# REFERENCES
