Pentiapine

Cat. No.: HY-100143
CAS No.: 81382-51-6
Molecular Formula: C₁₅H₁₇N₅S
Molecular Weight: 299.39
Target: Dopamine Receptor
Pathway: GPCR/G Protein; Neuronal Signaling
Storage: 4°C, protect from light

* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)

**SOLVENT & SOLUBILITY**

**In Vitro**

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent Concentration</th>
<th>Mass</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 mM</td>
<td></td>
<td>3.3401 mL</td>
<td>16.7006 mL</td>
<td>33.4012 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td></td>
<td>0.6680 mL</td>
<td>3.3401 mL</td>
<td>6.6802 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td></td>
<td>0.3340 mL</td>
<td>1.6701 mL</td>
<td>3.3401 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 (6.95 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (6.95 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (6.95 mM); Clear solution

**BIOLOGICAL ACTIVITY**

**Description**

Pentiapine is a novel dopamine release inhibitor.

**IC₅₀ & Target**

Dopamine receptor[^1]

**In Vivo**

Pentiapine is a novel dopamine release inhibitor. The results show that Pentiapine dose-dependently reduces motor activity of mice. Moreover, Pentiapine dose-dependently reduces morphine-induced hyperactivity. Newman-Keuls post-hoc comparisons indicate that the group receiving morphine plus saline presents more activity than the groups receiving morphine plus 2 (P<0.05), 4, 8, 16, 24 and 32 (P<0.01) mg/kg of Pentiapine. Moreover, the groups receiving
morphine plus 0.5, 1 and 2 mg/kg of Pentiapine present more activity than the groups receiving morphine plus 4, 8, 16, 24 and 32 mg/kg of Pentiapine (P<0.01)\[1\]. 30 mg/kg dose of Pentiapine completely blocks the methylenedioxymethamphetamine (MDMA) conditioned place preference (CPP) and also blocks the establishment of a cocaine CPP\[2\].

**PROTOCOL**

**Animal Administration** \[1\]

Two hundred and fifty-seven male mice are used in this study. Animals are divided into 19 groups (n=8). The first group receives physiological saline, the second receives 40 mg/kg of morphine and the other eight groups receive 0.5, 1, 2, 4, 8, 16, 24 or 32 mg/kg of Pentiapine, respectively. The remaining groups receive an injection of morphine and 30 min afterwards, an injection of physiological saline, 0.5, 1, 2, 4, 8, 16, 24 or 32 mg/kg of Pentiapine, respectively. In the groups receiving only one injection, animals are placed onto the sensory plates for a period of 90 min immediately after treatment. The computer registers the activity each 15 min. In the groups receiving two injections, animals are placed onto the sensory plates immediately after the first injection for a period of 30 min then after the second injection the motor activity is registered at 15, 30, 45 and 60 min\[1\].

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

**REFERENCES**
