Pramiracetam

Cat. No.: HY-17455
CAS No.: 68497-62-1
Molecular Formula: C₁₄H₂₇N₃O₂
Molecular Weight: 269.38
Target: Others
Pathway: Others
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: ≥ 100 mg/mL (371.22 mM)
* "≥" means soluble, but saturation unknown.

<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></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1 mM</td>
<td></td>
<td>3.7122 mL</td>
<td>18.5611 mL</td>
<td>37.1223 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td></td>
<td>0.7424 mL</td>
<td>3.7122 mL</td>
<td>7.4245 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td></td>
<td>0.3712 mL</td>
<td>1.8561 mL</td>
<td>3.7122 mL</td>
</tr>
</tbody>
</table>

In Vivo
1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (9.28 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (9.28 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (9.28 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
Pramiracetam is a nootropic drug derived from piracetam, and is more potent. Pramiracetam reportedly improved cognitive deficits associated with traumatic brain injuries. IC50 Value: Target: in vitro: Pramiracetam sulfate did not exhibit any affinity in vitro for dopaminergic, GABAergic, serotoninergic, adrenergic, muscarinic, adenosine (IC50 > 10 uM), and benzodiazepine receptors (IC50 > 1 uM) binding sites [1]. In vivo: In a double-blind, randomized design, two groups of six subjects each received alternating placebo and single 400, 800, 1,200, and 1,600 mg oral doses of
pramiracetam after an overnight fast. Mean (+/- SD) peak plasma concentrations of the four dose groups (2.71 +/- 0.54, 5.40 +/- 1.34, 6.13 +/- 0.71, 8.98 +/- 0.71 micrograms/mL) were attained between two to three hours following drug administration [2]. Two doses of pramiracetam (7.5 mg/kg and 15 mg/kg) were administered daily prior to testing for 7 weeks in a 16-arm radial maze in which nine arms were baited with food [3].

REFERENCES
