Ro 41-1049 hydrochloride

Cat. No.: HY-100027A
CAS No.: 127917-66-2
Molecular Formula: C₁₂H₁₃ClFN₃OS
Molecular Weight: 301.77
Target: Monoamine Oxidase
Pathway: Neuronal Signaling
Storage: Powder
-20°C 3 years
-4°C 2 years
-80°C 6 months
-20°C 1 month

SOLVENT & SOLUBILITY

In Vitro
DMSO: ≥ 32 mg/mL (106.04 mM)
H₂O: 25 mg/mL (82.84 mM; Need ultrasonic)
* “≥” means soluble, but saturation unknown.

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Mass (mg)</th>
<th>Concentration (mM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMSO</td>
<td>1 mg</td>
<td>1 mM</td>
</tr>
<tr>
<td></td>
<td>3.1318 mL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 mg</td>
<td>5 mM</td>
</tr>
<tr>
<td></td>
<td>16.5689 mL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 mg</td>
<td>10 mM</td>
</tr>
<tr>
<td></td>
<td>33.1378 mL</td>
<td></td>
</tr>
</tbody>
</table>

Preparing Stock Solutions

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: ≥ 2.5 mg/mL (8.28 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.28 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.28 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
Ro 41-1049 hydrochloride is a reversible and selective inhibitor of monoamine oxidase-A (MAO-A). An homogeneous population of high affinity binding sites for [³H]Ro 41-1049 is found in membrane preparations from human frontal cortex and placenta (Kᵦ values of 16.5 and 64.4 nM, respectively)¹.

IC₅₀ & Target
MAO-A ¹
Ro 41-1049 (1-50 mg/kg; intraperitoneal injection; for 3 hours; Sprague-Dawley rats) treatment inhibits dopamine metabolite formation and increases dopamine levels in a dose-dependent fashion. Pretreatment with Ro 41-1049 (20 mg/kg) significantly increases dopamine formation following L-dopa administration (100 mg/kg IP) while decreasing formation of 3,4-dihydroxyphenylacetic acid (DOPAC) and homovanillic acid (HVA)².

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

<table>
<thead>
<tr>
<th>Animal Model</th>
<th>Sprague-Dawley rats (200-240 g)²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dosage</td>
<td>1 mg/kg, 5 mg/kg, 10 mg/kg, 20 mg/kg, or 50 mg/kg</td>
</tr>
<tr>
<td>Administration</td>
<td>Intraperitoneal injection; for 3 hours</td>
</tr>
<tr>
<td>Result</td>
<td>Inhibited dopamine metabolite formation and increased dopamine levels in a dose-dependent fashion. Pretreatment with the concentration of 20 mg/kg significantly increased dopamine formation following L-dopa administration while decreasing formation of DOPAC and HVA.</td>
</tr>
</tbody>
</table>

REFERENCES
