Moclobemide

Cat. No.: HY-B0534
CAS No.: 71320-77-9
Molecular Formula: C₁₃H₁₇ClN₂O₂
Molecular Weight: 268.74
Target: Monoamine Oxidase
Pathway: 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

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Mass</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass</td>
<td></td>
<td>mg</td>
<td>mg</td>
<td>mg</td>
</tr>
<tr>
<td>1 mM</td>
<td></td>
<td>3.7211 mL</td>
<td>18.6053 mL</td>
<td>37.2107 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td></td>
<td>0.7442 mL</td>
<td>3.7211 mL</td>
<td>7.4421 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td></td>
<td>0.3721 mL</td>
<td>1.8605 mL</td>
<td>3.7211 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: ≥ 2.5 mg/mL (9.30 mM); Clear solution

2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (9.30 mM); Clear solution

3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (9.30 mM); Clear solution

**BIOLOGICAL ACTIVITY**

Moclobemide(Ro111163) is a reversible monoamine oxidase inhibitor (MAOI) selective for isoform A (RIMA) used to treat major depressive disorder. Target: Monoamine Oxidase
Moclobemide orally administered 2 hours before decapitation preferentially inhibits MAO-A and PEA in rat brain with ED50 of 7.6 μmol/kg and 78 μmol/kg, respectively. Moclobemide orally administered 2 hours before decapitation preferentially inhibits MAO-A and PEA in rat liver with ED50 of 8.4 μmol/kg and 6.6 μmol/kg, respectively. Moclobemide (0.1 mM), which inhibits brain MAO-A activity by over 80%, does not affect benzylamine oxidase (rat heart) and diamine oxidase (rat small intestine) activity.
in vitro [1]. Moclobemide (10 mM-100 mM) includes in the culture medium during anoxia or with glutamate significantly increases in a concentration-dependent manner the amount of surviving neurons compared to controls in neuronal-astroglial cultures from rat cerebral cortex [2]. Moclobemide (10 mg/kg p.o.) induces a significant decrease of all monoamine metabolites measured in rat brain [1]. Moclobemide, given via the drinking water (4.5 mg/kg/day), produces significant decreases in adrenal weight of rats after 5 (-23%) and 7 weeks (-16%) of treatment. Moclobemide upregulates hippocampal mineralocorticoid receptor (MR) levels in rats by 65%, 76% and 19% at 2 weeks, 5 weeks and 7 weeks of treatment, and upregulates Glucocorticoid receptor (GR) levels in this limbic brain structure by 10% at 5 weeks. Moclobemide treatment (5 weeks, 4.5 mg/kg/day) significantly attenuates stress (30 min novel environment)-induced plasma ACTH (-35%) and corticosterone (-29%) levels [3].

REFERENCES

