Ranolazine dihydrochloride

Cat. No.: HY-17401
CAS No.: 95635-56-6
Molecular Formula: C₂₄H₃₅Cl₂N₃O₄
Molecular Weight: 500.46
Target: Calcium Channel; Sodium Channel; Autophagy
Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling; Autophagy
Storage: Powder
-20°C 3 years
4°C 2 years
In solvent
-80°C 6 months
-20°C 1 month

SOLVENT & SOLUBILITY

<table>
<thead>
<tr>
<th>In Vitro</th>
<th>DMSO : $\geq$ 50 mg/mL (99.91 mM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>H₂O : $\geq$ 50 mg/mL (99.91 mM)</td>
<td></td>
</tr>
</tbody>
</table>

*“≥” means soluble, but saturation unknown.

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Mass 1 mg</th>
<th>Mass 5 mg</th>
<th>Mass 10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>1.9982 mL</td>
<td>9.9908 mL</td>
<td>19.9816 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.3996 mL</td>
<td>1.9982 mL</td>
<td>3.9963 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.1998 mL</td>
<td>0.9991 mL</td>
<td>1.9982 mL</td>
</tr>
</tbody>
</table>

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description
Ranolazine dihydrochloride (CVT 303 dihydrochloride) is an anti-angina drug that achieves its effects by inhibiting the late phase of inward sodium current (I_{Na} and I_{Kr} with IC₅₀ values of 6 μM and 12 μM, respectively) without affecting heart rate or blood pressure (BP)[1][2]. Ranolazine dihydrochloride is also a partial fatty acid oxidation inhibitor[3].

IC₅₀ & Target
IC₅₀: 6 μM (I_{Na}), 12 μM (I_{Kr})[1]

In Vivo
Ranolazine (Bolus injection 10 mg/kg and infusion 9.6 mg/kg/h; bolus injection; for 145 minutes; male Wistar rats) treatment significantly reduces infarct size and cardiac troponin T release in rats subjected to left anterior descending coronary artery occlusion-reperfusion[3].

Animal Model: Male Wistar rats (240-350 g)[3]
Dosage: Bolus injection 10 mg/kg and infusion (9.6 mg/kg/h)
Administration: Bolus injection; for 145 minutes
Result: Significantly reduced infarct size and cardiac troponin T release in rats subjected to left anterior descending coronary artery occlusion-reperfusion.

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REFERENCES

