Rimonabant Hydrochloride

**Cat. No.:** HY-14137  
**CAS No.:** 158681-13-1  
**Molecular Formula:** C₂₂H₂₂Cl₄N₄O  
**Molecular Weight:** 500.25  
**Target:** Cannabinoid Receptor; Bacterial  
**Pathway:** GPCR/G Protein; Neuronal Signaling; Anti-infection  
**Storage:**  
- Powder: -20°C 3 years, 4°C 2 years  
- In solvent: -80°C 6 months, -20°C 1 month

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**SOLVENT & SOLUBILITY**

### In Vitro

**DMSO:** 33.33 mg/mL (66.63 mM; Need ultrasonic)

<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>1 mM</td>
<td>1.9990 mL</td>
<td>9.9950 mL</td>
<td>19.9900 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.3998 mL</td>
<td>1.9990 mL</td>
<td>3.9980 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.1999 mL</td>
<td>0.9995 mL</td>
<td>1.9990 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 (5.00 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% corn oil  
   Solubility: ≥ 2.5 mg/mL (5.00 mM); Clear solution

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**BIOLOGICAL ACTIVITY**

**Description**
Rimonabant hHydrochloride (SR 141716A Hydrochloride) is a highly potent and selective central cannabinoid receptor (CB1) antagonist with an $K_i$ of 1.8 nM. Rimonabant hHydrochloride (SR 141716A Hydrochloride) also inhibits Mycobacterial membrane protein Large 3 (MMPL3).

**IC₅₀ & Target**

| CB1 | 1.8 nM (Ki) |

In Vitro

Rimonabant could inhibit the growth of Mtb with an MIC of 54 μM. MmpL3, an anti-TB target, is the direct target of rimonabant[2].
Rimonabant itself (10⁻¹²-10⁻³ M, 12 concentrations) inhibits the basal binding of [³⁵S]GTPgS to human cortical membranes in a concentration dependent manner, with a -log IC₅₀ of 4.7±0.2 (IC₅₀ = 20 μM) and a maximal inhibition of 48±2%[³].

**In Vivo**

Rimonabant (10 mg/kg by gavage) is fed for 2 weeks to 3-month-old male obese Zucker rats as an impaired glucose tolerance model and for 10 weeks to 6-month-old male obese Zucker rats as a model of the metabolic syndrome. RANTES and MCP-1 serum levels are increased in obese vs lean Zucker rats and significantly reduced by long-term treatment with Rimonabant, which slowes weight gain in rats with the metabolic syndrome. Neutrophils and monocytes are significantly increased in young and old obese vs lean Zucker rats and lowered by Rimonabant. Platelet-bound fibrinogen is significantly enhanced in obese vs lean Zucker rats of both age, and is reduced by Rimonabant [¹]. Rimonabant (20 mg daily) exhibits a significant reduction in many cardiometabolic risk factors[⁴].

**REFERENCES**


