Procyclidine hydrochloride

**Cat. No.:** HY-B1487  
**CAS No.:** 1508-76-5  
**Molecular Formula:** C₁₉H₃₀ClNO  
**Molecular Weight:** 323.9  
**Target:** iGluR  
**Pathway:** Membrane Transporter/Ion Channel; 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**  
DMSO: 10.66 mg/mL (32.91 mM; Need ultrasonic and warming)

<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>1 mM</td>
<td></td>
<td>3.0874 mL</td>
<td>15.4369 mL</td>
<td>30.8737 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td></td>
<td>0.6175 mL</td>
<td>3.0874 mL</td>
<td>6.1747 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td></td>
<td>0.3087 mL</td>
<td>1.5437 mL</td>
<td>3.0874 mL</td>
</tr>
</tbody>
</table>

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

### BIOLOGICAL ACTIVITY

**Description**  
Procyclidine hydrochloride is a potent anti-cholinergic agent, and is also known to have NMDA antagonist properties.

**IC₅₀ & Target**  
NMDA Receptor[^1^]

**In Vivo**  
Procyclidine widely used as anti-parkinsonian agents because of their anti-cholinergic action, is also known to have NMDA antagonist properties. Unlike other NMDA antagonists, these agents—because of their anti-cholinergic action—are devoid of neurotoxic side effects. Procyclidine alleviates thermal hyperalgesia in a dose dependent manner; when a marginally effective dose of the agent is combined with an ineffective dose of an alpha(2) adrenergic agonist (Clonidine or Guanabenz), the combination therapy provides effective and long-lasting relief from neuropathic pain[^2^].

### PROTOCOL

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[^1^]: [MedChemExpress.com](www.MedChemExpress.com)
Adult Sprague-Dawley female rats (weight 300-330 g) are used. Procyclidine given systemically causes a transient increase in locomotor activity (mainly non-ambulatory fine movements) in adult rats. Locomotor activity data (ambulations, fine movements) are evaluated using a two-way ANOVA to test whether co-administration of clonidine (0.025 mg/kg) with various doses of Procyclidine (10, 25, 50 and 75 mg/kg) altered the activity levels compared to the same doses of Procyclidine administered alone. A one-way ANOVA and subsequent comparisons are also conducted to establish whether the activity levels for each treatment group are different from saline controls.

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

REFERENCES