**E1R**

Cat. No.: HY-116463  
CAS No.: 1301211-78-8  
Molecular Formula: $\text{C}_{13}\text{H}_{16}\text{N}_2\text{O}_2$  
Molecular Weight: 232.28  
Target: Sigma Receptor  
Pathway: GPCR/G Protein; Neuronal Signaling  
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 : 60 mg/mL (258.31 mM; Need ultrasonic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparing Stock Solutions</td>
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<tr>
<td>Concentration</td>
<td>Mass</td>
</tr>
<tr>
<td>1 mM</td>
<td>4.3051 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.8610 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.4305 mL</td>
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</tbody>
</table>

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

**BIOLOGICAL ACTIVITY**

Description: E1R is a positive allosteric modulator of sigma-1 receptors (Sig1R PAM) with cognition-enhancing activity\(^1\).

In Vitro: The only target for E1R (inhibition or enhancement of radioligand binding exceeding 20%) is the sigma receptor. 10 $\mu$M E1R does not displace the radioligand, but instead increases the specific binding of a non-selective radioligand ($[^3]$H][1,3-di(2-toly)guanidine) for the sigma receptor by 38% in Jurkat cells\(^1\).

In Vivo: E1R demonstrates efficacy against scopolamine-induced cholinergic dysfunction in mice. Treatment with E1R (0.1-10 mg/kg; administered i.p. 60 min before the training session) significantly improves cognitive function in a dose-related manner in mice\(^1\).

| Animal Model: Male ICR and Balb/c mice weighed 23-25 g\(^1\) |
| Dosage: 0.1, 1 and 10 mg/kg |
Administration: Administered i.p. 60 min before the training session

Result: Treatment at doses of 1 and 10 mg/kg increased retention latency by 194 and 211%, respectively, compared with the control group.

REFERENCES