DSR-141562

Cat. No.: HY-136569
CAS No.: 2007975-22-4
Molecular Formula: C₁₉H₂₅F₃N₄O₃
Molecular Weight: 414.42
Target: Phosphodiesterase (PDE)
Pathway: Metabolic Enzyme/Protease
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: 50 mg/mL (120.65 mM; Need ultrasonic)

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent</th>
<th>Mass</th>
<th>concetration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 mM</td>
<td>2.4130 mL</td>
<td>12.0651 mL</td>
<td>24.1301 mL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 mM</td>
<td>0.4826 mL</td>
<td>2.4130 mL</td>
<td>4.8260 mL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10 mM</td>
<td>0.2413 mL</td>
<td>1.2065 mL</td>
<td>2.4130 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 (6.03 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.03 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.03 mM); Clear solution

**BIOLOGICAL ACTIVITY**

**Description**

DSR-141562 is a novel, orally active, and selective brain-penetrant phosphodiesterase 1 (PDE1) inhibitor. DSR-141562 shows preferential selectivity for human PDE1B with an IC₅₀ of 43.9 nM, and the IC₅₀ values for human PDE1A and 1C are 97.6 and 431.8 nM, respectively. DSR-141562 can be used for the study of positive symptoms, negative symptoms and cognitive impairments associated with schizophrenia[1][2].

**IC₅₀ & Target**

IC₅₀: 43.9 nM (human PDE1B)
IC₅₀: 97.6 nM (human PDE1A)
IC50: 431.8 nM (human PDE1C)

**In Vivo**

DSR-141562 (oral administration; 30 mg/kg; single dose; plasma and brain exposures 0.5, 1, 2, and 3 hours after administration) exhibits good brain uptake, with the brain-to-blood concentration ratio of unbound drug being 0.99 in rats.

DSR-141562 (oral administration; 10 mg/kg; single dose; 2 hours) slightly but significantly increases cGMP contents in the frontal cortex and striatum in rat\(^1\).

DSR-141562 (oral administration; 30 mg/kg or 100 mg/kg; single dose; 2 hours) causes a significant increase in cGMP concentration in monkey CSF. The plasma concentrations of unbound this compound are above 43.9 nM (IC50s) for PDE1B in vitro (43.9 nM). DSR-141562 causes a significant increase in cGMP concentration in monkey CSF\(^1\).

DSR-141562 (oral administration; 3 mg/kg, 10 mg/kg and 30 mg/kg; single dose) significantly reverses methamphetamine-induced locomotor hyperactivity, but has no effect on spontaneous locomotor activity at 3 and 10 mg/kg\(^1\).

DSR-141562 (oral administration; 0.3 mg/kg, 1 mg/kg or 3 mg/kg) significantly reversed the phencyclidine-induced decrease of social interaction time in mice\(^1\).

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

<table>
<thead>
<tr>
<th>Animal Model</th>
<th>Male SpragueDawley rats(^1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dosage</td>
<td>3 mg/kg, 10 mg/kg and 30 mg/kg</td>
</tr>
<tr>
<td>Administration</td>
<td>Oral administration; single dose</td>
</tr>
<tr>
<td>Result</td>
<td>Inhibited methamphetamine-induced locomotor hyperactivity in rats, while it had only minimal effects on the spontaneous locomotor activity.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Animal Model</th>
<th>Male SpragueDawley rats(^1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dosage</td>
<td>0.3 mg/kg, 1 mg/kg or 3 mg/kg</td>
</tr>
<tr>
<td>Administration</td>
<td>Oral administration; single dose</td>
</tr>
<tr>
<td>Result</td>
<td>Reversed social interaction.</td>
</tr>
</tbody>
</table>

**REFERENCES**


---

**Caution:** Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898  Fax: 609-228-5909  E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA

www.MedChemExpress.com