Fluphenazine decanoate

Cat. No.: HY-B1904
CAS No.: 5002-47-1
Molecular Formula: C₃₂H₄₄F₃N₃O₂S
Molecular Weight: 591.77
Target: Dopamine Receptor
Pathway: GPCR/G Protein; Neuronal Signaling
Storage: Pure form -20°C 3 years
         4°C 2 years
         In solvent -80°C 6 months
                  -20°C 1 month

SOLVENT & SOLUBILITY

In Vitro
DMSO : 125 mg/mL (211.23 mM; Need ultrasonic)
Ethanol : 50 mg/mL (84.49 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>1.6898 mL</td>
<td>8.4492 mL</td>
<td>16.8985 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.3380 mL</td>
<td>1.6898 mL</td>
<td>3.3797 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.1690 mL</td>
<td>0.8449 mL</td>
<td>1.6898 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: ≥ 1.08 mg/mL (1.83 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.08 mg/mL (1.83 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.08 mg/mL (1.83 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
Fluphenazine decanoate is a long-acting phenothiazine neuroleptic that used to treat schizophrenia. Fluphenazine decanoate is also a high and continuous dopamine D₂ receptor blocker[1][2][3].

IC₅₀ & Target
Dopamine D₂ receptor[2]
Six female Persian onagers (Equus hemionus onager) are treated with Fluphenazine decanoate (0.1 mg/kg IM) or saline control. Urinary cortisol, progesterone, estrogen metabolites and behavior are monitored, and follicular dynamics are examined using ultrasonography until ovulation. Onagers demonstrate significantly lower cortisol concentrations when treated with Fluphenazine decanoate (6.61 ng/mg creatinine) compared to saline (9.73 ng/mg creatinine). There are no differences in peak estrogen or progesterone concentrations between the two groups, and all animals ovulate within the expected time frame following Fluphenazine decanoate treatment. However, some onagers exhibit only minor reductions in cortisol secretion and one treated female demonstrates a suppressed luteal progesterone peak, indicating a possible reproductive cost to Fluphenazine decanoate administration [1].

REFERENCES

