**JNJ-31020028**

**Cat. No.:** HY-14450  
**CAS No.:** 1094873-14-9  
**Molecular Formula:** C_{34}H_{36}FN_{5}O_{2}  
**Molecular Weight:** 565.68

**Target:** Neuropeptide Y Receptor  
**Pathway:** GPCR/G Protein; Neuronal Signaling

**Storage:**  
- Powder: -20°C for 3 years, 4°C for 2 years  
- In solvent: -80°C for 6 months, -20°C for 1 month

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**SOLVENT & SOLUBILITY**

**In Vitro**

DMSO: 21.5 mg/mL (38.01 mM; Need ultrasonic and warming)

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent Concentration</th>
<th>Mass</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1 mM</td>
<td>1.7678 mL</td>
<td>8.8389 mL</td>
<td>17.6778 mL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 mM</td>
<td>0.3536 mL</td>
<td>1.7678 mL</td>
<td>3.5356 mL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 mM</td>
<td>0.1768 mL</td>
<td>0.8839 mL</td>
<td>1.7678 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 (4.42 mM); Clear solution

2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
   Solubility: ≥ 2.5 mg/mL (4.42 mM); Clear solution

3. Add each solvent one by one: 10% DMSO >> 90% corn oil  
   Solubility: ≥ 2.5 mg/mL (4.42 mM); Clear solution

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**BIOLOGICAL ACTIVITY**

**Description**

JNJ-31020028 is a selective brain penetrant antagonist of neuropeptide Y2 receptor with high affinity (pIC50 = 8.07, human; pIC50 = 8.22 rat); >100-fold selective versus human Y1/Y4/Y5 receptors. IC50 value: 8.07/8.22 (human/rat) [1]  
Target: Y2 receptor antagonist  
*in vitro:* JNJ-31020028 was demonstrated to be an antagonist (pK(B) = 8.04 +/- 0.13) in functional assays [1].  
*in vivo:* JNJ-31020028 occupied Y2 receptor binding sites (approximately 90% at 10 mg/kg) after subcutaneous administration in rats [1]. Neither systemic (0, 15, 30, and 40 mg/kg, subcutaneously [s.c.]) nor intracerebroventricular (0.0, 0.3, and 1.0 nmol/rat) administration of JNJ-31020028 affected alcohol-reinforced...
lever pressing or relapse to alcohol seeking behavior following stress exposure. JNJ-31020028 (15 mg/kg, s.c.) did reverse the anxiogenic effects of withdrawal from a single bolus dose of alcohol on the elevated plus-maze, confirming the anxiolytic-like properties of NPY Y2 antagonism [2]. Chronic administration of JNJ-31020028 induced a decrease in immobility time in the forced swim test in OBX while had no effect in control animals [3].

REFERENCES

