**Blonanserin**

Cat. No.: HY-13575  
CAS No.: 132810-10-7  
Molecular Formula: C$_{23}$H$_{30}$FN$_3$  
Molecular Weight: 367.5  
Target: 5-HT Receptor; Dopamine 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**

### In Vitro

DMSO: 14.29 mg/mL (38.88 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>2.7211 mL</td>
<td>13.6054 mL</td>
<td>27.2109 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.5442 mL</td>
<td>2.7211 mL</td>
<td>5.4422 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.2721 mL</td>
<td>1.3605 mL</td>
<td>2.7211 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 >> 90% corn oil  
   Solubility: ≥ 1.43 mg/mL (3.89 mM); Clear solution

2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
   Solubility: ≥ 1.43 mg/mL (3.89 mM); Clear solution

3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
   Solubility: ≥ 1.43 mg/mL (3.89 mM); Clear solution

**BIOLOGICAL ACTIVITY**

Description: Blonanserin(AD-5423) is a D2/5-HT2 receptor antagonist, atypical antipsychotic. Target: D2 receptor; 5-HT2 receptor Blonanserin(AD-5423) is a relatively new atypical antipsychotic for the treatment of schizophrenia. Blonanserin belongs to a series of 4-phenyl-2-(1-piperazinyl)pyridines and acts as an antagonist at dopamine D2, D3, and serotonin 5-HT2A receptors. Blonanserin has low affinity for 5-HT2C, adrenergic a1, histamine H1, and muscarinic M1 receptors, but displays relatively high affinity for 5-HT6 receptors [1]. AD-5423 bound preferentially to dopamine (DA)-D2 (Kᵢ, 14.8 nM; cf. haloperidol, 8.79 nM; and clozapine, 149 nM) and serotonin (5-HT)-S2 (Kᵢ, 3.98 nM; cf.
haloperidol, 26.8 nM; and clozapine, 8.66 nM) receptors. It displayed low affinity for adrenaline (Ad)-alpha-1 (Ki, 56.3 nM) receptors and was virtually devoid of binding to DA-D1 (Ki, 2870 nM), 5-HT-S3, Ad-alpha-2, Ad-beta, muscarine, tau-aminobutyric acid and benzodiazepine receptors. In addition, AD-5423 was only a weak inhibitor of DA, 5-HT and noradrenaline uptake systems. AD-5423 (0.2-2 mg/kg p.o.) decreased exploratory activity in mice. AD-5423 (10 mg/kg p.o.), unlike haloperidol, did not antagonize SKF38393-induced vacuous oral movements in rats. Head twitches induced by 1-(2,5-dimethoxy-4-iodophenyl)-2-aminopropane in mice and by para-chloroamphetamine in rats were antagonized by AD-5423 at much lower doses (0.5-2 mg/kg p.o.) than those of haloperidol and clozapine [2].

REFERENCES
