Agomelatine hydrochloride

Cat. No.: HY-17038A
CAS No.: 1176316-99-6
Molecular Formula: C₁₅H₁₈ClNO₂
Molecular Weight: 279.76
Target: 5-HT 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 : ≥ 100 mg/mL (357.45 mM)
* “≥” means soluble, but saturation unknown.

Preparing Stock Solutions

<table>
<thead>
<tr>
<th>Solvent Concentration</th>
<th>Mass mL</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>3.5745 mL</td>
<td>17.8725 mL</td>
<td>35.7449 mL</td>
<td></td>
</tr>
<tr>
<td>5 mM</td>
<td>0.7149 mL</td>
<td>3.5745 mL</td>
<td>7.1490 mL</td>
<td></td>
</tr>
<tr>
<td>10 mM</td>
<td>0.3574 mL</td>
<td>1.7872 mL</td>
<td>3.5745 mL</td>
<td></td>
</tr>
</tbody>
</table>

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

BIOLOGICAL ACTIVITY

Description
Agomelatine hydrochloride is a antidepressant, which is classified as a norepinephrine-dopamine disinhibitor (NDDI) due to its antagonism of the 5-HT2C receptor. IC50 value: 6.2 (pKi, 5-HT2c); 6.6 (pKi, 5-HT2b) Target: 5-HT 2c receptor Agomelatine hydrochloride is an antidepressant drug. It is classified as a norepinephrine-dopamine disinhibitor (NDDI) due to its antagonism of the 5-HT2C receptor. Activation of 5-HT2C receptors by serotonin inhibits dopamine and norepinephrine release. Antagonism of 5-HT2C results in an enhancement of DA and NE release and activity of frontocortical dopaminergic and adrenergic pathways [1]. A total of 42 rats were divided into 7 groups as each composed of 6 rats: (1) intact, (2) 40 mg/kg agomelatine, (3) 140 mg/kg N-acetylcysteine (NAC), (4) 2 g/kg paracetamol, (5) 2 g/kg paracetamol + 140 mg/kg NAC, (6) 2 g/kg paracetamol + 20 mg/kgagomelatine, and (7) 2 g/kg paracetamol + 40 mg/kg agomelatine groups. Paracetamol-induced hepatotoxicity was applied and liver and blood samples were analyzed histopathologically and biochemically. There were statistically significant increases in the activities of aspartate aminotransferase, alanine aminotransferase, levels of tumor necrosis factor-alpha (TNF-α) and interleukin-6 (IL-6) and 8-iso-prostan, and decreases in the activity of superoxide dismutase and level of glutathione in the group treated with paracetamol. Administration of agomelatine and NAC separately reversed these
changes significantly [2]. Clinical indications: Depression; Obsessive compulsive disorder FDA Approved Date: October 2011

Toxicity: Hyperhidrosis; Abdominal pain; Nausea; Vomiting; Diarrhoea; Constipation; Back pain; Fatigue

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**REFERENCES**


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

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