Alarelin Acetate

Cat. No.: HY-17405
CAS No.: 79561-22-1
Molecular Formula: C₆₀H₈₆N₁₆O₁₆
Molecular Weight: 1287.42
Target: GNRH Receptor
Pathway: GPCR/G Protein
Storage: Powder -20°C 3 years
In solvent -80°C 6 months
-20°C 1 month

SOLVENT & SOLUBILITY

In Vitro
DMSO : 100 mg/mL (77.67 mM; Need ultrasonic)
H₂O : 100 mg/mL (77.67 mM; Need ultrasonic)

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent Mass</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 mM</td>
<td>0.7767 mL</td>
<td>3.8837 mL</td>
<td>7.7675 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.1553 mL</td>
<td>0.7767 mL</td>
<td>1.5535 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.0777 mL</td>
<td>0.3884 mL</td>
<td>0.7767 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 (1.94 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (1.94 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (1.94 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
Alarelin acetate is a synthetic GnRH agonist.

In Vitro
The cell viability in the presence of alarelin was significantly lower than that in the absence of alarelin. The maximum stimulatory effect on cell viability was achieved at a concentration of 10⁻⁵ M and it acted in a dose-dependent manner[1]
In Vivo

Alarelin could inhibit the gastric acid secretion both by direct actions on parietal cells in rats and by inhibiting vagous function\(^2\). Alarelin could significantly enhance ratio of G1 phase and decrease ratio of S phase of GSMC of rats\(^1\).

PROTOCOL

Cell Assay\(^1\)

The cells are trypsinized in a solution of 2.5 g/L trypsin and seeded in a 96-well plate. After the cells are grown for 24 h to approximately 800 g/L subconfluent state, 0.1 mL medium containing 2.5% calf serum and various concentrations (0.001, 0.1, 10 \(\mu\)M) of alarelin is added to each well, respectively, and incubated for 24 h in a CO\(_2\) incubator. Each concentration is tested in at least 12 wells. Briefly, 15 \(\mu\)L of MTT solution is added to each well and incubated for 4 h. Then, the medium and MTT are removed and 150 \(\mu\)L of DMSO is added to each well and shaken for 10 min to dissolve the crystal. The OD is determined at 490 nm using an ELISA reader\(^1\).

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

Animal Administration\(^2\)

Rats: Male Sprague-Dawley rats are divided into two groups. In Group I: Gastric acid secretion is measured in a chambered stomach. Briefly, the abdomen is incised, and both the stomach and duodenum are exposed and tied respectively; then 1.5 mL 0.9% sodium chloride (containing Alarelin, 2 \(\mu\)g/kg) is infused into the each chambered stomach. After 15, 30, 45, 60 min, the gastric juice is drew out of the chambered stomach and the pH is measured in the ABL-500 respectively. The control is infused saline instead of Alarelin. In Group II: After anaesthetized, 2 mL Alarelin (2 \(\mu\)g/kg) is administered into the tail vein. The control is injected the saline instead of Alarelin. Then, the stomach and duodenum are tied and infused 1.5 mL saline immediately. After 15, 30, 45, 60 min, the gastric juice is also drew out of the chambered stomach and the pH is measured in the ABL-500 respectively\(^2\).

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REFERENCES
