**Paeonol**

**Cat. No.:** HY-N0159  
**CAS No.:** 552-41-0  
**Molecular Formula:** C₉H₁₀O₃  
**Molecular Weight:** 166.17  
**Target:** Monoamine Oxidase; Autophagy  
**Pathway:** Neuronal Signaling; Autophagy  
**Storage:**  
- Powder: -20°C 3 years, 4°C 2 years  
- In solvent: -80°C 6 months, -20°C 1 month

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**SOLVENT & SOLUBILITY**

**In Vitro**
- Ethanol: 50 mg/mL (300.90 mM; Need ultrasonic)  
- DMSO: ≥ 38 mg/mL (228.68 mM)  
- H₂O: < 0.1 mg/mL (insoluble)  
  
  > "≥" means soluble, but saturation unknown.

<table>
<thead>
<tr>
<th>Mass (mg)</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>6.0179 mL</td>
<td>30.0897 mL</td>
<td>60.1793 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>1.2036 mL</td>
<td>6.0179 mL</td>
<td>12.0359 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.6018 mL</td>
<td>3.0090 mL</td>
<td>6.0179 mL</td>
</tr>
</tbody>
</table>

Preparing Stock Solutions

- 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 (15.04 mM); Suspended solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
   Solubility: ≥ 2.5 mg/mL (15.04 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil  
   Solubility: ≥ 2.5 mg/mL (15.04 mM); Clear solution
4. Add each solvent one by one: 10% EtOH >> 90% (20% SBE-β-CD in saline)  
   Solubility: ≥ 2.5 mg/mL (15.04 mM); Clear solution
5. Add each solvent one by one: 10% EtOH >> 90% corn oil  
   Solubility: ≥ 2.5 mg/mL (15.04 mM); Clear solution

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**BIOLOGICAL ACTIVITY**
<table>
<thead>
<tr>
<th>Description</th>
<th>Paeonol is an active extraction from the root of Paeonia suffruticosa, Paeonol inhibits MAO-A and MAO-B with IC$_{50}$ of 54.6 μM and 42.5 μM, respectively.</th>
</tr>
</thead>
<tbody>
<tr>
<td>IC$_{50}$ &amp; Target</td>
<td>IC50: 42.5 μM (MAO-B), 54.6 μM (MAO-A)[1]</td>
</tr>
<tr>
<td>In Vitro</td>
<td>Paeonol is found to be inhibitory against MAO A in a dose-dependent manner with IC$<em>{50}$ value of 54.6 μM. Paeonol is shown to inhibit MAO-B in a dose-dependent manner with the IC$</em>{50}$ of 42.5 μM. For Paeonol, the K$_i$ is estimated to be 51.1 μM. The inhibition of Paeonol on MAO B is of competitive type with K$_i$ value of 38.2 μM[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</td>
</tr>
<tr>
<td>In Vivo</td>
<td>The 200 mg/kg Paeonol+I/R group [AN/V (%): 7.6±2.2, p&lt;0.01] and 100 mg/kg Paeonol+I/R group [AN/V (%): 9.4±2.8, p&lt;0.05] both show lesser extents of no-reflow area in the ventricles compared with the I/R group [AN/V (%): 18.2±2.9]. In particular, the 200 mg/kg Paeonol + I/R group experienced markedly alleviated no-reflow in the whole heart [AN/WH (%): 4.6±1, p&lt;0.05] compared with the I/R group [AN/WH (%): 10.0±1.9][2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</td>
</tr>
</tbody>
</table>

**PROTOCOL**

**Animal Administration**[2]

Mice[2]

Male Wistar rats (180-220 g, average age of 8 week) are randomly divided into four groups: (1) sham group, thoracotomy without left anterior descending coronary artery (LAD) occlusion or Paeonol pretreatment; (2) I/R group, LAD occlusion (ischemia) for 4 h followed by reperfusion for 8 h; (3) Paeonol (100 mg/kg)+I/R group, oral administration of 100 mg/kg Paeonol (1 mL/kg) for 7 days using an intragastric tube prior to I/R procedure; (4) Paeonol (200 mg/kg) + I/R group, oral administration of 200 mg/kg Paeonol (1 mL/kg) for 7 days using an intragastric tube prior to I/R procedure. In addition, rats in the sham and I/R groups received a dosage of DMSO equal to that with which the Paeonol was dissolved in for the other two groups. DMSO was also administered intragastrically for 7 consecutive days. A minimum of eight rats were assigned to each group. An ischemia group without reperfusion is not included since our present study mainly focuses on the effect of Paeonol on the cardiac injuries after reperfusion, which is closely related to the real-world situation of no-reflow after coronary revascularization. However, future studies may include a group subjected only to 4 h of ischemia to differentiate, in terms of damage to the cardiac function, which was due to the ischemia and which was due to the no-reflow. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**REFERENCES**


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

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