Tannic acid

Cat. No.: HY-B2136
CAS No.: 1401-55-4
Molecular Formula: C₇₆H₅₂O₄₆
Molecular Weight: 1701.2
Target: Potassium Channel
Pathway: Membrane Transporter/Ion Channel
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 (58.78 mM; Need ultrasonic)
H₂O : ≥ 100 mg/mL (58.78 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Mass</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>0.5878 mL</td>
<td>2.9391 mL</td>
<td>5.8782 mL</td>
<td></td>
</tr>
<tr>
<td>5 mM</td>
<td>0.1176 mL</td>
<td>0.5878 mL</td>
<td>1.1756 mL</td>
<td></td>
</tr>
<tr>
<td>10 mM</td>
<td>0.0588 mL</td>
<td>0.2939 mL</td>
<td>0.5878 mL</td>
<td></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 (1.47 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (1.47 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (1.47 mM); Clear solution

BIOLICAL ACTIVITY

Description
Tannic acid is a novel hERG channel blocker with IC₅₀ of 3.4 μM.

IC₅₀ & Target
IC₅₀: 3.4 μM (hERG channel)
In Vivo
During the course of treatment, tannic acid significantly ameliorates these phenotypes in AD skin lesions. Tannic acid treatment also reduces these dermal changes compared with AD mice. Treatment with tannic acid increases PPARγ expression in AD skin sections. The PPARγ protein expression is suppressed in vehicle-treated AD mice, but when treated with tannic acid, its expression is increased dramatically. The IL-1β, TNFα, TNFR1, and COX2 protein expressions are significantly up-regulated in vehicle-treated AD mice, but significantly suppressed by tannic acid treatment[2].

PROTOCOL
Animal Administration [2]
Specific pathogen-free female 6 weeks old mice are used. The animals are maintained in a controlled room (temperature 23±2 °C, humidity 55±15%, 12 h light cycle). After 1 week, the mice are randomly divided into 3 groups, untreated group-receive vehicle (distill water) (Normal, n=5); DfE cream treated mice (100 mg/mouse) is divided into two groups and each receives vehicle (distill water) (AD, n=5) or Tannic acid (80 mg/kg/day, per oral) (AD+Tannic acid, n=5) and are allowed free access to drinking water and standard laboratory diet[2].
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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