Chikusetsusaponin IVa

Cat. No.: HY-N0818
CAS No.: 51415-02-2
Molecular Formula: C₄₂H₆₆O₁₄
Molecular Weight: 794.97
Target: Others
Pathway: Others
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 (125.79 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>1.2579 mL</td>
<td>6.2895 mL</td>
<td>12.5791 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.2516 mL</td>
<td>1.2579 mL</td>
<td>2.5158 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.1258 mL</td>
<td>0.6290 mL</td>
<td>1.2579 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 (3.14 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (3.14 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (3.14 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
Chikusetsusaponin IVa a major active ingredient of triterpenoid saponins, exerts antithrombotic effects, including minor hemorrhagic events. This appears to be important for the development of new therapeutic agents. A novel AMPK activator that is capable of bypassing defective insulin signalling and could be useful for the treatment of T2DM or other metabolic disorders. IC50 Value: 199.4 ± 9.1 µM (inhibiting thrombin-induced fibrinogen clotting)
Target: In vitro: Using biochemical and pharmacological methods, it proves that chikusetsusaponin IVa prolongs the recalcification time, prothrombin time, activated partial thromboplastin time, and thrombin time of normal human
plasma in a dose-dependent manner; inhibits the amidolytic activity of thrombin and factor Xa upon synthetic substrates S2238 and S2222; inhibits thrombin-induced fibrinogen clotting (50% inhibition concentration, 199.4 ± 9.1 μM); inhibits thrombin- and collagen-induced platelet aggregation. Chikusetsusaponin IVa can also preferentially inhibits thrombin in a competitive manner (K(i)=219.6 μM) [1]. Chikusetsusaponin IVa suppresses the production of iNOS, COX-2, IL-1β, IL-6, and TNF-α in LPS-stimulated THP-1 cells likely by inhibiting NF-κB activation and ERK, JNK, and p38 signal pathway phosphorylation [2]. In vivo: Studies were performed on type 2 diabetic mellitus (T2DM) rats given CHS for 28 days to test the antihyperglycemic activity. Oral administration of CHS dose-dependently increased the level of serum insulin and decreased the rise in blood glucose level [3].

REFERENCES


