Cynarin

**Cat. No.:** HY-N0359

**CAS No.:** 30964-13-7

**Molecular Formula:** C₂₅H₂₄O₁₂

**Molecular Weight:** 516.45

**Target:** Reactive Oxygen Species

**Pathway:** Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB

**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: ≥ 23 mg/mL (44.53 mM)

*“≥” means soluble, but saturation unknown.*

<table>
<thead>
<tr>
<th>Solvent Concentration</th>
<th>Mass (1 mg)</th>
<th>Mass (5 mg)</th>
<th>Mass (10 mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>1.9363 mL</td>
<td>9.6815 mL</td>
<td>19.3630 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.3873 mL</td>
<td>1.9363 mL</td>
<td>3.8726 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.1936 mL</td>
<td>0.9681 mL</td>
<td>1.9363 mL</td>
</tr>
</tbody>
</table>

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

**BIOLOGICAL ACTIVITY**

**Description**

Cynarin is an antichoke agent with a variety of biological activities including antioxidant, antihistaminic and antiviral activities.

**In Vitro**

Cynarin inhibits taste receptors, making water to be sweet. It has been shown to have some pharmacological properties including hypocholesterolemic, hepatoprotective, antiviral, antibacterial, and antihistaminic effects. Cynarin has marked antioxidant, anticholinergic, reducing ability, radical-scavenging, and metal-binding activities. Cynarin demonstrates 87.72% inhibition of linoleic acid lipid peroxidation at 30 mg/mL concentration. Cynarin exhibits effective DMPD⁺, ABTS⁺, O₂⁻, DPPH⁺, and H₂O₂ scavenging effects, reducing capabilities and Fe²⁺ chelating effects. IC₅₀ and Kᵢ of cynarin for acetylcholinesterase enzyme inhibition are 243.67nM and 39.34±13.88 nM, respectively[1].

Cynarin is a potential immunosuppressant that blocks the interaction between the CD28 of T-cell receptor and CD80 of antigen presenting cells. Cynarin blocks about 87% of the CD28-dependent "signal 2" pathway of T-cell activation under the condition of one to one ratio of T-cell and B-cell. Cynarin binds to the "G-pocket" of CD28 and thus interrupts the site of interaction between CD28 and CD80[2].
PROTOCOL

Cell Assay [2]

The cytotoxicity of cynarin treatment of T-cells is measured by MTT colorimetric assay. 100 μL Jurkat cells are incubated with cynarin (0-1000 μg/mL) for 24 h at 37°C. The cell solution is then centrifuged and the supernatant removed. 200 μL of MTT is added and the cell solution is incubated again for 4 h at 37°C. 200 μL of DMSO lysis buffer is added into the cell medium and the concentration of dissolved MTT crystals is measured by plate reader at 560 nm [2].

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

REFERENCES
