Silychristin

**Cat. No.**: HY-N0647  
**CAS No.**: 33889-69-9  
**Molecular Formula**: C_{25}H_{22}O_{10}  
**Molecular Weight**: 482.44  
**Target**: Others  
**Pathway**: Others  
**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**  
**DMSO**: 100 mg/mL (207.28 mM; Need ultrasonic)  
**Preparing Stock Solutions**  
<table>
<thead>
<tr>
<th>Solvent Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>2.0728 mL</td>
<td>10.3640 mL</td>
<td>20.7280 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.4146 mL</td>
<td>2.0728 mL</td>
<td>4.1456 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.2073 mL</td>
<td>1.0364 mL</td>
<td>2.0728 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 (5.18 mM); Clear solution  
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
   Solubility: ≥ 2.5 mg/mL (5.18 mM); Clear solution  
3. Add each solvent one by one: 10% DMSO >> 90% corn oil  
   Solubility: ≥ 2.5 mg/mL (5.18 mM); Clear solution

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**BIOLOGICAL ACTIVITY**

**Description**  
Silychristin is an abundant flavonolignan present in the fruits of *Silybum marianum*, with antioxidant properties. Silychristin is a potent inhibitor of the thyroid hormone transporter MCT8, and elicits a strong inhibition of T3 uptake with an IC_{50} of 110 nM[1][2].

**IC_{50} & Target**  
MCT8[2]

**In Vitro**  
Silychristin exhibits a strong inhibition of MCT8-mediated T3 uptake with an IC_{50} of 110 nM in MCT8 overexpressing MDCK1-
Silychristin causes no cytotoxic for fibroblasts\(^2\). Silychristin (6.5-75 \(\mu\)M; 24 hours) diminishes UVA toxicity and reduces ROS generation, and the protective effect is dose-dependent\(^3\). Silychristin (12.5\(\mu\)M, 25\(\mu\)M) reduces the metalloproteinase-1 (MMP-1) level in cells\(^3\). MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**Cell Viability Assay\(^3\)**

<table>
<thead>
<tr>
<th>Cell Line:</th>
<th>NHDF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration:</td>
<td>6.5 (\mu)M, 12.5 (\mu)M, 25 (\mu)M, 50 (\mu)M, 75 (\mu)M</td>
</tr>
<tr>
<td>Incubation Time:</td>
<td>24 hours</td>
</tr>
<tr>
<td>Result:</td>
<td>Diminished UVA toxicity and reduced ROS generation in dose-dependent.</td>
</tr>
</tbody>
</table>

**REFERENCES**


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

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