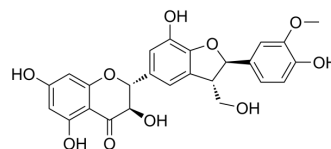


Silychristin

Cat. No.:	HY-N0647
CAS No.:	33889-69-9
Molecular Formula:	C ₂₅ H ₂₂ O ₁₀
Molecular Weight:	482.44
Target:	Monocarboxylate Transporter
Pathway:	Membrane Transporter/Ion Channel
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (207.28 mM; Need ultrasonic)																					
	<table border="1"> <thead> <tr> <th rowspan="2">Solvent</th> <th rowspan="2">Mass</th> <th colspan="3">Concentration</th> </tr> <tr> <th>1 mg</th> <th>5 mg</th> <th>10 mg</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Preparing Stock Solutions</td> <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>	Solvent	Mass	Concentration			1 mg	5 mg	10 mg	Preparing Stock Solutions	1 mM	2.0728 mL	10.3640 mL	20.7280 mL	5 mM	0.4146 mL	2.0728 mL	4.1456 mL	10 mM	0.2073 mL	1.0364 mL	2.0728 mL
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Please refer to the solubility information to select the appropriate solvent.																						
In Vivo	<ol style="list-style-type: none"> 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 Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (5.18 mM); Clear solution 																					

BIOLOGICAL ACTIVITY

Description	Silychristin is an abundant flavonolignan present in the fruits of <i>Silybum marianum</i> , 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]} .
IC₅₀ & Target	MCT8 ^[2]
In Vitro	<p>Silychristin exhibits a strong inhibition of MCT8-mediated T3 uptake with an IC₅₀ of 110 nM in MCT8 overexpressing MDCK1-cells^[2].</p> <p>Silychristin causes no cytotoxic for fibroblasts^[3].</p> <p>Silychristin (6.5-75 μM; 24 hours) diminishes UVA toxicity and reduces ROS generation, and the protective effect is dose-</p>

dependent^[3].

Silychristin (12.5 μ M, 25 μ 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]

Cell Line:	NHDF
Concentration:	6.5 μ M, 12.5 μ M, 25 μ M, 50 μ M, 75 μ M
Incubation Time:	24 hours
Result:	Diminished UVA toxicity and reduced ROS generation in dose-dependent.

Cell Viability Assay^[3]

Cell Line:	NHDF
Concentration:	12.5 μ M, 25 μ M
Incubation Time:	
Result:	Reduced the metalloproteinase-1 (MMP-1) level in cells.

REFERENCES

[1]. Biedermann D, et al. Silychristin: Skeletal Alterations and Biological Activities. J Nat Prod. 2016 Dec 23;79(12):3086-3092.

[2]. Johannes J, et al. Silychristin, a Flavonolignan Derived From the Milk Thistle, Is a Potent Inhibitor of the Thyroid Hormone Transporter MCT8. Endocrinology. 2016 Apr;157(4):1694-701.

[3]. Rajnochová Svobodová A, et al. A pilot study of the UVA-photoprotective potential of dehydrosilybin, isosilybin, silychristin, and silydianin on human dermal fibroblasts. Arch Dermatol Res. 2019 Aug;311(6):477-490.

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

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