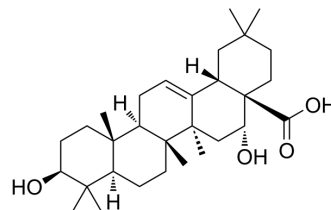


## Echinocystic acid

<b>Cat. No.:</b>	HY-N0271		
<b>CAS No.:</b>	510-30-5		
<b>Molecular Formula:</b>	C <sub>30</sub> H <sub>48</sub> O <sub>4</sub>		
<b>Molecular Weight:</b>	472.7		
<b>Target:</b>	Reactive Oxygen Species; Apoptosis		
<b>Pathway:</b>	Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB; Apoptosis		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 50 mg/mL (105.78 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM	2.1155 mL	10.5775 mL	21.1551 mL
		5 mM	0.4231 mL	2.1155 mL	4.2310 mL
10 mM		0.2116 mL	1.0578 mL	2.1155 mL	
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	1. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.75 mg/mL (5.82 mM); Clear solution				

### BIOLOGICAL ACTIVITY

<b>Description</b>	Echinocystic acid is a natural pentacyclic triterpene with potent antioxidant, anti-inflammatory and analgesic activities <sup>[1][2]</sup> .				
<b>In Vitro</b>	<p>Echinocystic acid (2.5-10 μM; pretreated 1 h) inhibits IL-1β-induced NF-κB and MAPK activation<sup>[1]</sup>.</p> <p>Echinocystic acid suppresses IL-1β-induced MMP-13, NO, and PGE2 production in a dose-dependent manner. IL-1β up-regulated the expression of COX-2 and iNOS, and the increase is inhibited by Echinocystic acid<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Western Blot Analysis<sup>[1]</sup></p> <table border="1" style="width: 100%;"> <tr> <td>Cell Line:</td> <td>Chondrocytes</td> </tr> <tr> <td>Concentration:</td> <td>2.5 μM, 5 μM, 10 μM</td> </tr> </table>	Cell Line:	Chondrocytes	Concentration:	2.5 μM, 5 μM, 10 μM
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Concentration:	2.5 μM, 5 μM, 10 μM				

	Incubation Time:	Pretreated 1 h and then stimulated with IL-1 $\beta$ for 30 min.
	Result:	IL-1 $\beta$ -induced NF- $\kappa$ B and MAPK activation were inhibited.
<b>In Vivo</b>	Echinocystic acid (5 mg/kg intragastrically daily for 5 days) shows anti-depression activities in the mouse model of reserpine-induced pain-depression dyad <sup>[2]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
	Animal Model:	Male adult C57BL/6 mice (8-10 week old; 18 to 22 g) injected with Reserpine <sup>[2]</sup>
	Dosage:	5 mg/kg
	Administration:	Intragastrically; daily for 5 days
	Result:	Attenuated reserpine-induced pain/depression dyad partially through regulating the biogenic amines levels and GluN2B receptors in the hippocampus.

## CUSTOMER VALIDATION

- SSRN. 2024 Feb 23.

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## REFERENCES

- [1]. Ma Z et al. Echinocystic Acid Inhibits IL-1 $\beta$ -Induced COX-2 and iNOS Expression in Human Osteoarthritis Chondrocytes. *Inflammation*. 2016 Apr;39(2):543-9.
- [2]. Li S et al. Echinocystic acid reduces reserpine-induced pain/depression dyad in mice. *Metab Brain Dis*. 2016 Apr;31(2):455-63.

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

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