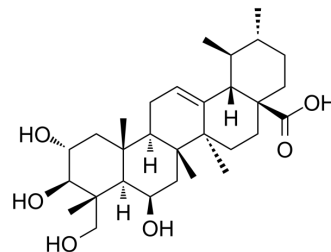


## Madecassic acid

<b>Cat. No.:</b>	HY-N0569
<b>CAS No.:</b>	18449-41-7
<b>Molecular Formula:</b>	C <sub>30</sub> H <sub>48</sub> O <sub>6</sub>
<b>Molecular Weight:</b>	504.7
<b>Target:</b>	NO Synthase; COX; TNF Receptor; Interleukin Related
<b>Pathway:</b>	Immunology/Inflammation; Apoptosis
<b>Storage:</b>	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 62.5 mg/mL (123.84 mM; Need ultrasonic)					
	<b>Preparing Stock Solutions</b>	<b>Solvent</b>	<b>Mass</b>	<b>1 mg</b>	<b>5 mg</b>	<b>10 mg</b>
		<b>Concentration</b>				
		<b>1 mM</b>		1.9814 mL	9.9069 mL	19.8138 mL
		<b>5 mM</b>		0.3963 mL	1.9814 mL	3.9628 mL
<b>10 mM</b>		0.1981 mL	0.9907 mL	1.9814 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 >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.08 mg/mL (4.12 mM); Clear solution					
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (4.12 mM); Clear solution					
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (4.12 mM); Clear solution					

### BIOLOGICAL ACTIVITY

<b>Description</b>	Madecassic acid is isolated from <i>Centella asiatica</i> (Umbelliferae). Madecassic acid has anti-inflammatory properties caused by iNOS, COX-2, TNF-alpha, IL-1beta, and IL-6 inhibition via the downregulation of NF-κB activation in RAW 264.7 macrophage cells <sup>[1]</sup> .			
<b>IC<sub>50</sub> &amp; Target</b>	iNOS	COX-2	IL-1β	IL-6
<b>In Vitro</b>	Madecassic acid (150μM, 24 h) inhibits LPS (HY-D1056)-induced iNOS and COX-2 protein expression <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only. Western Blot Analysis <sup>[1]</sup>			

	Cell Line:	RAW 264.7 murine macrophage cell
	Concentration:	50, 100, 150 $\mu$ M
	Incubation Time:	24 h followed by LPS (1 $\mu$ g/mL) treatment for 4 h
	Result:	Inhibited LPS-induced iNOS and COX-2 protein expression i in a dose -dependent manner.
<b>In Vivo</b>	Madecassic acid (p.o, 25 mg/kg, 10 days) reduces the level of IL-17 and the number of $\gamma\delta$ T17 cells in colon tissues of colitis mice, and attenuates colitis in mice <sup>[2]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
	Animal Model:	Colitis mice induced by 2.5% DSS <sup>[2]</sup>
	Dosage:	25 mg/kg/day
	Administration:	Oral gavage (p.o.) , 10 days
	Result:	Decreased the number of $\gamma\delta$ T17 cells in the colons . Reduced the expression of IL-17 in colon tissues .

## CUSTOMER VALIDATION

- Mol Cell Toxicol. 20 September 2021.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

[1]. Xinming Yun, et al. Madecassic acid alleviates colitis-associated colorectal cancer by blocking the recruitment of myeloid-derived suppressor cells via the inhibition of IL-17 expression in  $\gamma\delta$ T17 cells. *Biochem Pharmacol.* 2022.

[2]. Won JH, et al. Anti-inflammatory effects of madecassic acid via the suppression of NF-kappaB pathway in LPS-induced RAW 264.7 macrophage cells. *Planta Med.* 2010 Feb;76(3):251-7.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA