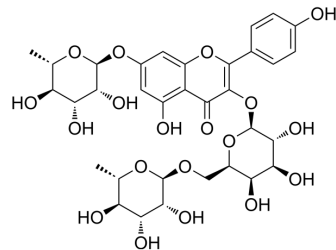


## Robinin

<b>Cat. No.:</b>	HY-N1346
<b>CAS No.:</b>	301-19-9
<b>Molecular Formula:</b>	C <sub>33</sub> H <sub>40</sub> O <sub>19</sub>
<b>Molecular Weight:</b>	740.66
<b>Target:</b>	Toll-like Receptor (TLR); Apoptosis
<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 : 250 mg/mL (337.54 mM; Need ultrasonic)				
		Solvent Concentration	Mass		
	<b>Preparing Stock Solutions</b>		1 mg	5 mg	10 mg
		1 mM	1.3501 mL	6.7507 mL	13.5015 mL
		5 mM	0.2700 mL	1.3501 mL	2.7003 mL
	10 mM	0.1350 mL	0.6751 mL	1.3501 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 (2.81 mM); Clear solution				
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (2.81 mM); Clear solution				
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (2.81 mM); Clear solution				

### BIOLOGICAL ACTIVITY

<b>Description</b>	Robinin is a flavonoid that can be extracted from the leaves of purple cowpea, inhibiting TGF-β, TLR4/NF-κB and TLR2-PI3k-AKT signaling pathways. Robinin exerts anti-inflammatory and anti-tumor effects. The combination of Robinin and Methotrexate (HY-14519) reduces inflammation in experimental arthritis, Robinin can decrease the Doxorubicin (HY-15142A) induced cardiac toxicity effect <sup>[1][2][3][4]</sup> .	
<b>IC<sub>50</sub> &amp; Target</b>	TLR2	TLR4
<b>In Vitro</b>	Robinin (1-10 μg/ml, 24 h) shows no obvious cytotoxicity in hPBMCs cells <sup>[1]</sup> . Robinin (6 μg/mL, 24 h) inhibits the expression of MCP1, TNF-α, IL-6 and ICAM-1 proteins and the mRNA levels of TLR2 and	

TLR4 in hPBMCs cells, and had anti-inflammatory effects <sup>[1]</sup>.

Robinin (1  $\mu$ M, 24 h) inhibits the proliferation and migration of Mia-PACA2 and PANC-1 cells<sup>[2]</sup>.

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

#### Western Blot Analysis<sup>[1]</sup>

Cell Line:	hPBMCs
Concentration:	6 $\mu$ g/mL
Incubation Time:	24 h
Result:	Inhibited the upregulated expression of MCP 1, TNF- $\alpha$ , IL-6 and ICAM-1 with anti-inflammatory properties.

#### Cell Viability Assay<sup>[1]</sup>

Cell Line:	hPBMCs
Concentration:	1 $\mu$ g/mL, 2 $\mu$ g/mL, 4 $\mu$ g/mL, 6 $\mu$ g/mL, 8 $\mu$ g/mL, 10 $\mu$ g/mL
Incubation Time:	24 h
Result:	Concentration from 1 $\mu$ g/ml-10 $\mu$ g/ml on hPBMCs had no obvious cytotoxicity.

#### RT-PCR<sup>[1]</sup>

Cell Line:	hPBMCs
Concentration:	1 $\mu$ g/mL, 2 $\mu$ g/mL, 4 $\mu$ g/mL, 6 $\mu$ g/mL, 8 $\mu$ g/mL, 10 $\mu$ g/mL
Incubation Time:	24 h
Result:	Inhibited the upregulated expression of TLR2 and TLR4.

#### Cell Proliferation Assay<sup>[2]</sup>

Cell Line:	Mia-PACA2 and PANC-1
Concentration:	1 $\mu$ M
Incubation Time:	24 h
Result:	Inhibited cell proliferation.

#### Cell Migration Assay <sup>[2]</sup>

Cell Line:	Mia-PACA2 and PANC-1
Concentration:	1 $\mu$ M
Incubation Time:	24 h
Result:	Decreased the cell migration area

#### In Vivo

The combination of Robinin and methotrexate (50 mg/kg and 0.3 mg/kg, Oral gavage, Twice a week) has anti-inflammatory and anti-arthritis action in adjuvant arthritis mice models<sup>[3]</sup>.

Robinin (50 mg/kg, Oral gavage, 10 days) can modulate the cardioprotective effect of the TGF- $\beta$ 1 signaling pathway on Adriamycin-induced cardiotoxicity<sup>[4]</sup>.

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

Animal Model:	Adjuvant arthritis mice model <sup>[3]</sup>
Dosage:	50 mg/kg Robinin and 0.3 mg/kg MTX twice a week
Administration:	Oral gavage (p.o.)
Result:	Had anti-inflammatory and anti-arthritic action.

Animal Model:	Sprague Dawley rats model <sup>[4]</sup>
Dosage:	50 mg/kg Robinin for 10 days
Administration:	Oral gavage (p.o.)
Result:	Reduced the cardiotoxic effects of Doxorubicin-induced

## CUSTOMER VALIDATION

- Toxicol Appl Pharmacol. 2024 May 20;487:116976.
- Research Square Preprint. 2023 Dec 25.

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

## REFERENCES

- [1]. wenwen Zhang, et al. Robinin inhibits pancreatic cancer cell proliferation, EMT and inflammation via regulating TLR2-PI3k-AKT signaling pathway, 10 May 2023.
- [2]. Tsiklauri L, et al. Bioflavonoid Robinin from Astragalus falcatus Lam. Mildly Improves the Effect of Methotrexate in Rats with Adjuvant Arthritis. *Nutrients*. 2021 Apr 13;13(4):1268.
- [3]. Janeesh PA, et al. Robinin modulates doxorubicin-induced cardiac apoptosis by TGF- $\beta$ 1 signaling pathway in Sprague Dawley rats. *Biomed Pharmacother*. 2014 Oct;68(8):989-98.
- [4]. Janeesh PA, et al. Robinin modulates TLR/NF- $\kappa$ B signaling pathway in oxidized LDL induced human peripheral blood mononuclear cells. *Int Immunopharmacol*. 2014 Jan;18(1):191-7.

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

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