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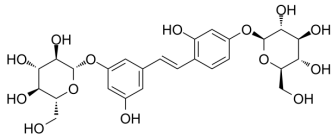
Mulberroside A

Cat. No.:	HY-N0619
CAS No.:	102841-42-9
Molecular Formula:	$C_{26}H_{32}O_{14}$
Molecular Weight:	568.52
Target:	TNF Receptor; Interleukin Related; Tyrosinase
Pathway:	Apoptosis; Immunology/Inflammation; Metabolic Enzyme/Protease
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 (175.90 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.7590 mL	8.7948 mL	17.5895 mL
5 mM	0.3518 mL	1.7590 mL	3.5179 mL
10 mM	0.1759 mL	0.8795 mL	1.7590 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 0.5% CMC-Na/saline water
   Solubility: 10 mg/mL (17.59 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (4.40 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (4.40 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (4.40 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Mulberroside A is one of the main bioactive constituent in mulberry (Morus alba L.)[1]. Mulberroside A decreases the expressions of TNF-α, IL-1β, and IL-6 and inhibits the activation of NALP3, caspase-1, and NF-κB and the phosphorylation of ERK, JNK, and p38, exhibiting anti-inflammatory antiapoptotic effects[2]. Mulberroside A shows inhibitory activity against mushroom tyrosinase with an IC_{50} of 53.6 μM[3].

IC_{50} & Target	IL-1β	IL-6

In Vivo

Mulberroside A (10, 20, and 40 mg/kg) decreases serum uric acid levels and increases urinary urate excretion and fractional excretion of uric acid in hyperuricemic micem[4].

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

Animal Model:	Male Kun-Ming mice (20±2 g)[4]
Dosage:	5, 10, 20, and 40 mg/kg; the dose volume 10 mL/kg body weight
Administration:	Orally initiated at 9:00 a.m.
Result:	10, 20, and 40 mg/kg significantly increased urinary urate excretion in 24 h, resulting in a remarkable elevation of fractional excretion of uric acid (FEUA), and the highest dose completely reversed FEUA alteration of hyperuricemic mice to normal.

CUSTOMER VALIDATION

- iScience. 2023 Jan 5;26(2):105936.
- Int Immunopharmacol. 2024 Jan 16:128:111537.

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REFERENCES

[1]. Mei M, et al. In vitro pharmacokinetic characterization of mulberroside A, the main polyhydroxylated stilbene in mulberry (Morus alba L.), and its bacterial metabolite oxyresveratrol in traditional oral use. J Agric Food Chem. 2012 Mar 7;60(9):2299-308.

[2]. Wang CP, et al. Mulberroside A protects against ischemic impairment in primary culture of rat cortical neurons after oxygen-glucose deprivation followed by reperfusion. J Neurosci Res. 2014 Jul;92(7):944-54.

[3]. Kim JK, et al. Biotransformation of mulberroside A from Morus alba results in enhancement of tyrosinase inhibition. J Ind Microbiol Biotechnol. 2010 Jun;37(6):631-7.

[4]. Cai-Ping Wang,et al. Mulberroside a possesses potent uricosuric and nephroprotective effects in hyperuricemic mice. Planta Med. 2011 May;77(8):786-94.

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