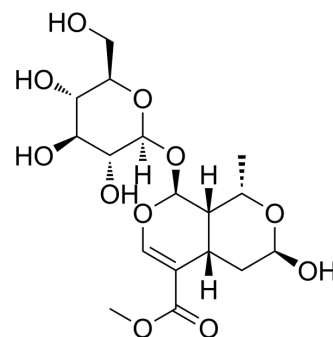


## Morrisonide

<b>Cat. No.:</b>	HY-N0532		
<b>CAS No.:</b>	25406-64-8		
<b>Molecular Formula:</b>	C <sub>17</sub> H <sub>26</sub> O <sub>11</sub>		
<b>Molecular Weight:</b>	406.38		
<b>Target:</b>	MMP; Pyroptosis; Apoptosis		
<b>Pathway:</b>	Metabolic Enzyme/Protease; Apoptosis; Immunology/Inflammation		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : 100 mg/mL (246.08 mM; Need ultrasonic)  
 H<sub>2</sub>O : 50 mg/mL (123.04 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.4608 mL	12.3038 mL	24.6075 mL
	5 mM	0.4922 mL	2.4608 mL	4.9215 mL
	10 mM	0.2461 mL	1.2304 mL	2.4608 mL

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

#### In Vivo

- Add each solvent one by one: PBS  
Solubility: 100 mg/mL (246.08 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.08 mg/mL (5.12 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.08 mg/mL (5.12 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.08 mg/mL (5.12 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Morrisonide has neuroprotective effect by inhibiting neuron apoptosis and MMP2/9 expression.

#### IC<sub>50</sub> & Target

MMP2

MMP9

## In Vivo

Morrisonide reduces the expression of MMP2 and MMP9 in an I/R injury model. Treatment with Morrisonide significantly reduces I/R-associated neuron apoptosis in a dose dependent manner. The results demonstrate that active caspase-3 and Bax are significantly upregulated in the model group compared with the control group, while Bcl-2 is significantly downregulated. The expression of active caspase-3 and Bax is significantly downregulated by Morrisonide treatment in a dose-dependent manner, while the expression of Bcl-2 is significantly upregulated<sup>[1]</sup>. Morrisonide has an ameliorative effect on diabetes-induced alterations such as oxidative stress, inflammation, and apoptosis in the liver of type 2 diabetic db/db mice<sup>[2]</sup>.

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

## PROTOCOL

### Animal Administration <sup>[1]</sup>

#### Rats<sup>[1]</sup>

A total of 50 adult male Sprague Dawley rats (age, 7-8 weeks; weight, 260-280 g) are used. Rats are randomly assigned into five groups (n=10 in each). Rats in the control group undergo sham surgery. All other rats undergo suture occluded surgery, with a 0.26 mm nylon monofilament inserted through the right common carotid artery and are divided into groups as follows: The cerebral I/R injury model group (model), no treatment; low dose group, 30 mg/kg/day Morrisonide by gavage; moderate dose group, 90 mg/kg/day Morrisonide by gavage; high dose group, 270 mg/kg/day Morrisonide by gavage. Rats in the control and model groups receive an equal volume of normal saline<sup>[1]</sup>.

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

## REFERENCES

- [1]. Zeng G, et al. Morrisonide protects against cerebral ischemia/reperfusion injury by inhibiting neuron apoptosis and MMP2/9 expression. *Exp Ther Med*. 2018 Sep;16(3):2229-2234.
- [2]. Park CH, et al. Evaluation of morroniside, iridoid glycoside from *Corni Fructus*, on diabetes-induced alterations such as oxidative stress, inflammation, and apoptosis in the liver of type 2 diabetic db/db mice. *Biol Pharm Bull*. 2011;34(10):1559-65.
- [3]. Huan Yu, et al. Morrisonide attenuates apoptosis and pyroptosis of chondrocytes and ameliorates osteoarthritic development by inhibiting NF- $\kappa$ B signaling. *J Ethnopharmacol*. 2021 Feb 10;266:113447.

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

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