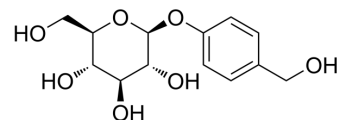


## Gastrodin

Cat. No.:	HY-N0115		
CAS No.:	62499-27-8		
Molecular Formula:	C <sub>13</sub> H <sub>18</sub> O <sub>7</sub>		
Molecular Weight:	286.28		
Target:	Others		
Pathway:	Others		
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 (349.31 mM)  
 H<sub>2</sub>O : 100 mg/mL (349.31 mM; Need ultrasonic)  
 \* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent		Mass		
	Concentration		1 mg	5 mg	10 mg
	1 mM		3.4931 mL	17.4654 mL	34.9308 mL
	5 mM		0.6986 mL	3.4931 mL	6.9862 mL
	10 mM		0.3493 mL	1.7465 mL	3.4931 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 (349.31 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.5 mg/mL (8.73 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.5 mg/mL (8.73 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.5 mg/mL (8.73 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Gastrodin, a main constituent of a Chinese herbal medicine Tianma, has been known to display anti-inflammatory effects. Gastrodin, has long been used for treating dizziness, epilepsy, stroke and dementia.

<b>In Vitro</b>	Gastrodin treatment reduces the mRNA expression levels of TNF- $\alpha$ and iNOS in the retinas of acute ocular hypertension <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	Intraperitoneal injection with Gastrodin 10 mg/kg or 50 mg/kg once daily for 15 d significantly inhibits the loss of retinal ganglion cells (RGCs) because of acute ocular hypertension (AOH) damage. 2 wk after AOH, the number of Iba1 positive retinal microglia obviously reduces to 231.3 $\pm$ 54.3 cells/mm <sup>2</sup> and 201.9 $\pm$ 43.1 cells/mm <sup>2</sup> in the rats intraperitoneally injected with Gastrodin at 10 mg/kg and 50 mg/kg, respectively <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## PROTOCOL

<b>Cell Assay</b> <sup>[1]</sup>	Retinas are collected at day 14 postoperatively, following treatment with normal saline (NS) or various doses of Gastrodin. The mRNA expression levels of TNF- $\alpha$ and iNOS are determined by reverse transcription-quantitative polymerase chain reaction (RT-qPCR) <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>Animal Administration</b> <sup>[1]</sup>	Adult female SD rats (age, 8 wk; weight, 200 to 250 g) are used. The rats are divided into 4 groups: 1) control group; 2) normal saline (NS) group who are exposed to acute ocular hypertension (AOH) and receive intraperitoneal injection of 0.9% NS; 3) G10 group who are exposed to AOH and receive intraperitoneal injection of 10 mg/kg Gastrodin; 4) G50 group who are exposed to AOH and receive intraperitoneal injection of 50 mg/kg Gastrodin. The loss of retinal ganglion cells (RGCs) and the number of Iba1-positive retina microglia are determined at 2 wk after rapid ocular hypertension <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## CUSTOMER VALIDATION

- Eur J Pharmacol. 2021 Feb 5;892:173734.
- Molecules. 2023 Dec 13;28(24):8062.
- Immunopharmacol Immunotoxicol. 2022 Jul 26;1-10.
- Brain Res. 2023 Oct 6:148607.
- Exp Ther Med. 2021 Mar 8.

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## REFERENCES

- [1]. Wang JW, et al. Gastrodin protects retinal ganglion cells through inhibiting microglial-mediated neuroinflammation in an acute ocular hypertension model. Int J Ophthalmol. 2017 Oct 18;10(10):1483-1489.
- [2]. Jiang T, Chu J, Chen H, et al. Gastrodin Inhibits H2O2-Induced Ferroptosis through Its Antioxidative Effect in Rat Glioma Cell Line C6. Biol Pharm Bull. 2020;43(3):480-487.

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

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