

## Paeoniflorin

Cat. No.:	HY-N0293		
CAS No.:	23180-57-6		
Molecular Formula:	C <sub>23</sub> H <sub>28</sub> O <sub>11</sub>		
Molecular Weight:	480.46		
Target:	HSP		
Pathway:	Cell Cycle/DNA Damage; Metabolic Enzyme/Protease		
Storage:	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 (208.13 mM; Need ultrasonic)  
 H<sub>2</sub>O : ≥ 100 mg/mL (208.13 mM)  
 \* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration \ Mass	1 mg	5 mg	10 mg
	1 mM	2.0813 mL	10.4067 mL	20.8134 mL
5 mM	0.4163 mL	2.0813 mL	4.1627 mL	
10 mM	0.2081 mL	1.0407 mL	2.0813 mL	

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

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.5 mg/mL (5.20 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.5 mg/mL (5.20 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.5 mg/mL (5.20 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Paeoniflorin is a heat shock protein-inducing compound and commonly exists in the plants of Paeoniaceae family, with various biological activities, including anticancer activity, anti-inflammatory activity, enhancing cognition and attenuating learning impairment, anti-oxidative stress, antiplatelet aggregation, expansion of blood vessels, and reducing blood viscosity<sup>[1][2][3]</sup>.

<b>In Vitro</b>	Paeoniflorin (80 µg/mL; 4-24 h) treatment can induce Hsp40 and Hsp27 as well as Hsp70 <sup>[3]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
	Western Blot Analysis <sup>[3]</sup>	
	Cell Line:	HeLa and IMR-32 cells
	Concentration:	80 µg/mL
	Incubation Time:	4, 8, 12, 16, and 24 hours
	Result:	Promoted the phosphorylation of HSF1.
<b>In Vivo</b>	Paeoniflorin (intradermal injection; 25 and 100mg/kg; once daily; 20 days) shows favorable effects on experimental arthritis <sup>[4]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
	Animal Model:	SD rats with collagen induced arthritis <sup>[4]</sup>
	Dosage:	25 and 100mg/kg
	Administration:	Intradermal injection; 25 and 100mg/kg; once daily; 20 days
	Result:	Decreased arthritis score, relieved ankle and paw swelling, improved spleen istopathology, decreased the levels of IgA, IgM, IgG and anti-CII antibody.

## CUSTOMER VALIDATION

- Phytother Res. 2022 May 16.
- Int Immunopharmacol. 2021 Nov 26;108364.
- Drug Des Dev Ther. 2021 Jan 22;15:245-257.
- Oral Dis. 2019 Nov;25(8):1945-1953.
- Chem Biodivers. 2022 Jul 16.

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## REFERENCES

- [1]. Yan-Xi Zhou, et al. A review on the pharmacokinetics of paeoniflorin and its anti-inflammatory and immunomodulatory effects. Biomed Pharmacother. 2020 Oct;130:110505.
- [2]. Yongjing Xiang, et al. Paeoniflorin: a monoterpene glycoside from plants of Paeoniaceae family with diverse anticancer activities. J Pharm Pharmacol. 2020 Apr;72(4):483-495.
- [3]. Dai Yan, et al. Paeoniflorin, a novel heat shock protein-inducing compound. Cell Stress Chaperones. 2004 Winter;9(4):378-89. Int J Oncol. 2013 Nov;43(5):1643-51.
- [4]. Pei-Pei Li, et al. BAFF/BAFF-R involved in antibodies production of rats with collagen-induced arthritis via PI3K-Akt-mTOR signaling and the regulation of paeoniflorin. J Ethnopharmacol. 2012 May 7;141(1):290-300.

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

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