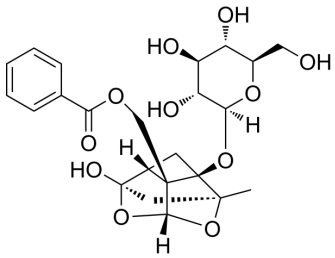
Paeoniflorin



Cat. No.:	HY-N0293
CAS No.:	23180-57-6
Molecular Formula:	$C_{23}H_{28}O_{11}$
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_2O : ≥ 100 mg/mL (208.13 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	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

1. 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
2. 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
3. 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[1][2][3].

In Vitro

Paeoniflorin (80 μg/mL; 4-24 h) treatment can induce Hsp40 and Hsp27 as well as Hsp70[3].

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

Western Blot Analysis[3]

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.

In Vivo

Paeoniflorin (intradermal injection; 25 and 100mg/kg; once daily; 20 days) shows favorable effects on experimental arthritis [4].

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

Animal Model:	SD rats with collagen induced arthritis[4]
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.
- CNS Neurosci Ther. 2023 May 8.
- J Ethnopharmacol. 2024 Mar 31:329:118140.
- J Ethnopharmacol. 2023 Mar 25;310:116422.

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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.

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

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA