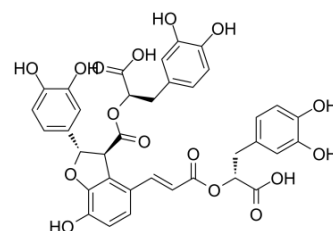


Salvianolic acid B

Cat. No.:	HY-N1362
CAS No.:	121521-90-2
Molecular Formula:	C ₃₆ H ₃₀ O ₁₆
Molecular Weight:	718.61
Target:	Autophagy
Pathway:	Autophagy
Storage:	Powder -20°C 3 years 4°C 2 years



* The compound is unstable in solutions, freshly prepared is recommended.

SOLVENT & SOLUBILITY

In Vitro

H₂O : 50 mg/mL (69.58 mM; ultrasonic and adjust pH to 3 with HCl)
DMSO : 25 mg/mL (34.79 mM; Need ultrasonic)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	1.3916 mL	6.9579 mL	13.9158 mL
	5 mM	0.2783 mL	1.3916 mL	2.7832 mL
	10 mM	0.1392 mL	0.6958 mL	1.3916 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 (3.48 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (3.48 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (3.48 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Salvianolic acid B is an active ingredient of *Salvia miltiorrhiza*, which has been widely applied in China for the management of various microcirculation-related disorders, such as cardiovascular disease, cerebrovascular disease, and diabetic vascular complication.

In Vitro

Salvianolic acid B (SA-B) 1 and 10 micromol/L decrease the cell active TGF-beta1 secretion by 63.3 % and 15.6 % of the control, down-regulate pro-collagen alpha1(I) mRNA expression to 77.0% and 51.8% respectively (P<0.05). SA-B 1 and 10 micromol/L also inhibit MAPK activity by 1 to 2 fold respectively.^[3]

The degradation of Salvianolic acid B is temperature dependent. It was stable at 4°C for 30 h in aqueous solution. However, decomposition of Salvianolic acid B aqueous solution occurs automatically at 25°C, and is enhanced at 37, 65 and 100°C. On the other hand, Salvianolic acid B is also stable at 4, 25 and 37°C for 30 h in TPA (total phenolic acids).^[4] Salvianolic acid B is stable for 30 h in buffered phosphate aqueous solutions at pH 1.5, 3.0 and 5.0. With an increase of pH from the neutral, the stability of Sal B decreased.^[4] MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Salvianolic acid B (SalB) (5 mg · kg⁻¹ · h⁻¹) significantly attenuates LPS-induced pulmonary microcirculatory disturbance, including the increase in leukocyte adhesion and albumin leakage. In addition, LPS increases pulmonary tissue wet-to-dry weight ratio and tumor necrosis factor [alpha] and interleukin 8 levels in plasma and bronchoalveolar lavage fluid enhances the expression of E-selectin, intercellular adhesion molecule 1, myeloperoxidase, MMP-2, and MMP-9, whereas it decreases the expression of AQP-1 and AQP-5 in pulmonary tissue, all of which are attenuated by SalB pretreatment^[1]. SalB administration (10 mg/kg) significantly ameliorate the Aβ₂₅₋₃₅ peptide-induced memory impairment in the passive avoidance task (P<0.05). SalB treatment also reduced the number of activated microglia and astrocytes that are observed during the inflammatory reaction after the administration of the Aβ₂₅₋₃₅ peptide. Moreover, SalB markedly reduce inducible nitric oxide synthase and cyclooxygenase-2 expression levels and thiobarbituric acid reactive substances, which are increased by the administration of the Aβ₂₅₋₃₅ peptide. Furthermore, SalB administration significantly rescue the Aβ₂₅₋₃₅ peptide-induced decrease of choline acetyltransferase and brain-derived neurotrophic factor protein levels^[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Oxid Med Cell Longev. 2020 Jul 1;2020:1605456.
- Phytomedicine. 2019 May;58:152754.
- Biochem Biophys Res Commun. 2020 Jun 4;526(3):733-737.
- J Toxicol Sci. 2021;46(5):199-207.

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REFERENCES

- [1]. Lee YW, et al. Neuroprotective effects of salvianolic acid B on an Aβ₂₅₋₃₅ peptide-induced mouse model of Alzheimer's disease. Eur J Pharmacol. 2013 Mar 15;704(1-3):70-7.
- [2]. Liu P, et al. Effect of salvianolic acid B on collagen production and mitogen-activated protein kinase activity in rat hepatic stellate cells. Acta Pharmacol Sin. 2002 Aug;23(8):733-8.
- [3]. Lin, Fang, et al. Salvianolic acid B protects from pulmonary microcirculation disturbance induced by lipopolysaccharide in rat. Shock. 2013 Mar;39(3):317-25.
- [4]. Man Xu, et al. Analysis on the Stability of Total Phenolic Acids and Salvianolic Acid B from Salvia miltiorrhiza by HPLC and HPLC-MSn. Natural Product Communications. 2008 Vol. 3, No. 5, 669-676.

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

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