Salvianolic acid B

Cat. No.: HY-N1362

CAS No.: 121521-90-2

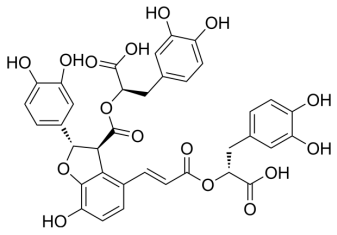
Molecular Formula: $C_{36}H_{30}O_{16}$

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

H_2O : 50 mg/mL (69.58 mM; ultrasonic and adjust pH to 3 with HCl)
DMSO : 25 mg/mL (34.79 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	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

1. Add each solvent one by one: PBS
   Solubility: 50 mg/mL (69.58 mM); Clear solution; Need ultrasonic
2. 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
3. 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
4. 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-regulat pro-collgen 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 occurres 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

- Phytomedicine. 2019 May;58:152754.
- Bioengineered. 2022 Feb;13(2):3486-3502.
- Pharmaceuticals. 2022, 15(2), 179.
- Biochem Biophys Res Commun. 2020 Jun 4;526(3):733-737.
- Biologia Futura. 2022.

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REFERENCES

[1]. Antaris AL, et al. A small-molecule dye for NIR-II imaging. Nat Mater. 2016 Feb;15(2):235-42.

[2]. Antaris AL, et al. A small-molecule dye for NIR-II imaging. Nat Mater. 2016 Feb;15(2):235-42.

[3]. Antaris AL, et al. A small-molecule dye for NIR-II imaging. Nat Mater. 2016 Feb;15(2):235-42.

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