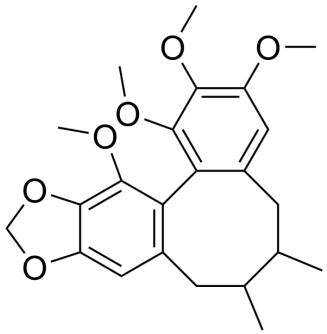
Schisandrin B

Cat. No.:	HY-N0089
CAS No.:	61281-37-6
Molecular Formula:	$C_{23}H_{28}O_6$
Molecular Weight:	400.46
Target:	Autophagy; Reactive Oxygen Species
Pathway:	Autophagy; Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB
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 (249.71 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.4971 mL	12.4856 mL	24.9713 mL
	5 mM	0.4994 mL	2.4971 mL	4.9943 mL
	10 mM	0.2497 mL	1.2486 mL	2.4971 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 (6.24 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.24 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.24 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Schisandrin B (γ-Schisandrin) is a biphenylcyclooctadiene derivative isolated from Schisandra chinensis and has been shown to have antioxidant effects on the liver and heart of rodents.

In Vitro

Schisandrin B modulates cellular redox status and activates Nrf2 and its dependent genes in lymphocytes[1].

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

Real Time qPCR[1]

Cell Line:	lymphocyte
Concentration:	10-50 μM
Incubation Time:	4 h
Result:	Increase in relative mRNA copy number of Nrf2, HO-1, TrxR1, and GCLC. Increased basal ROS levels and decreased GSH/GSSG ratio.

In Vivo

Schisandrin B decreases responsiveness to Con A and anti-CD3/CD28 mAb stimulation[1].

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

Animal Model:	Mice endotoxic shock model[1]
Dosage:	80 mg/kg
Administration:	Intraperitoneally injected (i.p.), single dose
Result:	Decreased proliferation and secretion of the proinflammatory cytokines IL-2, IL-6, and IFN-g .

CUSTOMER VALIDATION

- Biomater Sci. 2020 Jan 1;8(1):201-211.
- Front Pharmacol. 2020 Jul 31;11:1175.
- Front Cell Dev Biol. 2021 Nov 10;9:763864.
- Eur J Pharmacol. 2019 Jul 15;855:10-19.
- J Tissue Eng Regen Med. 2023 Mar 22.

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REFERENCES

[1]. Checker R, et al. Schisandrin B exhibits anti-inflammatory activity through modulation of the redox-sensitive transcription factors Nrf2 and NF-κB. Free Radic Biol Med. 2012 Oct 1;53(7):1421-30.

[2]. Lam PY, et al. Schisandrin B as a hormetic agent for preventing age-related neurodegenerative diseases. Oxid Med Cell Longev. 2012;2012:250825.

[3]. Zeng KW, et al. Schisandrin B exerts anti-neuroinflammatory activity by inhibiting the Toll-like receptor 4-dependent MyD88/IKK/NF-κB signaling pathway in lipopolysaccharide-induced microglia. Eur J Pharmacol. 2012 Oct 5;692(1-3):29-37.

[4]. Liu Z, et al. Schisandrin B attenuates cancer invasion and metastasis via inhibiting epithelial-mesenchymal transition. PLoS One. 2012;7(7):e40480.

[5]. Zhu S, et al. Protective effect of schisandrin B against cyclosporine A-induced nephrotoxicity in vitro and in vivo. Am J Chin Med. 2012;40(3):551-66.

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

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