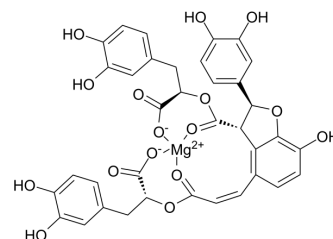


Magnesium Lithospermate B

Cat. No.:	HY-126415		
CAS No.:	122021-74-3		
Molecular Formula:	C ₃₆ H ₂₈ MgO ₁₆		
Molecular Weight:	740.9		
Target:	Others		
Pathway:	Others		
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 : 50 mg/mL (67.49 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	1.3497 mL	6.7485 mL	13.4971 mL
		5 mM	0.2699 mL	1.3497 mL	2.6994 mL
10 mM		0.1350 mL	0.6749 mL	1.3497 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 (3.37 mM); Clear solution 2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (3.37 mM); Clear solution				

BIOLOGICAL ACTIVITY

Description	Magnesium Lithospermate B, a derivative of caffeic acid tetramer, and is extracted from <i>Salviae miltiorrhizae</i> . Magnesium Lithospermate B is widely used for the research of cardiovascular diseases, and it can protect against glucose-induced intracellular oxidative damage. Magnesium Lithospermate B also suppresses neuroinflammation and attenuates neurodegeneration ^{[1][2][3]} .
In Vitro	Magnesium Lithospermate B (20-60 µg/ml; 24 h) decreases LDH activity in the cultured supernatant, increases SOD activity in cardiomyocytes, reduces intracellular ROS and MDA levels, and significantly suppresses cardiomyocytes apoptosis ^[2] . Magnesium Lithospermate B (1-100 µg/ml) enhances proliferation of neural stem cells (NSCs) in a dose-dependent manner ^[3] . Magnesium Lithospermate B (10 µg/ml) promotes the differentiation in vitro of NSCs towards neurons ^[3] .

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

In Vivo

Magnesium Lithospermate B (2-8 mg/kg; p.o. once daily for 16 d) reduces the renal damage of oxidative stress through reduction of reactive oxygen species in old rats^[1].

Magnesium Lithospermate B (0.5 µg/g; s.c. for 6 weeks) promotes the neurogenesis and improves the memory in PD models [3].

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

Animal Model:	Young (5-month-old) and old (20-month-old) specific-pathogen-free male Sprague-Dawley rats ^[1]
Dosage:	2, 8 mg/kg
Administration:	P.o. once daily for 16 days
Result:	Reduced the protein expression of major subunits of nicotinamide adenine dinucleotide phosphate oxidase (Nox4 and p22phox), phospho-p38, nuclear factor-kappa B p65, cyclooxygenase-2, and inducible nitric oxide synthase. Showed lower levels of senescence-related proteins such as p16, ADP-ribosylation factor 6, p53, and p21.

REFERENCES

- [1]. Park CH, et, al. Magnesium Lithospermate B from *Salvia miltiorrhiza* Bunge Ameliorates Aging-Induced Renal Inflammation and Senescence via NADPH Oxidase-Mediated Reactive Oxygen Generation. *Phytother Res.* 2017 May;31(5):721-728.
- [2]. Quan W, et, al. Antioxidant properties of magnesium lithospermate B contribute to the cardioprotection against myocardial ischemia/reperfusion injury in vivo and in vitro. *J Tradit Chin Med.* 2013 Feb; 33(1): 85-91.
- [3]. Zhang Z, et, al. Magnesium lithospermate B promotes proliferation and differentiation of neural stem cells in vitro and enhances neurogenesis in vivo. *Tissue Cell.* 2018 Aug; 53:8-14.

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

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