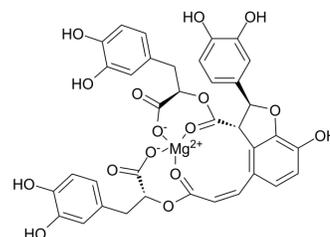


## Magnesium Lithospermate B

|                           |                                                   |       |         |
|---------------------------|---------------------------------------------------|-------|---------|
| <b>Cat. No.:</b>          | HY-126415                                         |       |         |
| <b>CAS No.:</b>           | 122021-74-3                                       |       |         |
| <b>Molecular Formula:</b> | C <sub>36</sub> H <sub>28</sub> MgO <sub>16</sub> |       |         |
| <b>Molecular Weight:</b>  | 740.9                                             |       |         |
| <b>Target:</b>            | Others                                            |       |         |
| <b>Pathway:</b>           | Others                                            |       |         |
| <b>Storage:</b>           | Powder                                            | -20°C | 3 years |
|                           |                                                   | 4°C   | 2 years |
|                           | In solvent                                        | -80°C | 2 years |
|                           |                                                   | -20°C | 1 year  |



### SOLVENT & SOLUBILITY

|                                                                               |                                                                                                                                                                                                                                                                               |                          |              |           |            |
|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------|-----------|------------|
| <b>In Vitro</b>                                                               | DMSO : 50 mg/mL (67.49 mM; Need ultrasonic)                                                                                                                                                                                                                                   |                          |              |           |            |
|                                                                               |                                                                                                                                                                                                                                                                               | Solvent<br>Concentration | Mass<br>1 mg | 5 mg      | 10 mg      |
|                                                                               | <b>Preparing Stock Solutions</b>                                                                                                                                                                                                                                              | 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. |                                                                                                                                                                                                                                                                               |                          |              |           |            |
| <b>In Vivo</b>                                                                | 1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline<br>Solubility: ≥ 2.5 mg/mL (3.37 mM); Clear solution<br><br>2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)<br>Solubility: ≥ 2.5 mg/mL (3.37 mM); Clear solution |                          |              |           |            |

### BIOLOGICAL ACTIVITY

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b> | 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 <sup>[1][2][3]</sup> .                                                                                                                            |
| <b>In Vitro</b>    | <p>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<sup>[2]</sup>.</p> <p>Magnesium Lithospermate B (1-100 µg/ml) enhances proliferation of neural stem cells (NSCs) in a dose-dependent manner<sup>[3]</sup>.</p> <p>Magnesium Lithospermate B (10 µg/ml) promotes the differentiation in vitro of NSCs towards neurons<sup>[3]</sup>.</p> |

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<sup>[1]</sup>.

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 <sup>[1]</sup>                                                                                                                                                                                                                               |
| 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.<br>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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