Schisandrin B

**Cat. No.:** HY-N0089  
**CAS No.:** 61281-37-6  
**Molecular Formula:** C₂₃H₂₈O₆  
**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 6 months  
  - -20°C 1 month

**SOLVENT & SOLUBILITY**

**In Vitro**  
DMSO: 100 mg/mL (249.71 mM; Need ultrasonic)

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Mass (mg)</th>
<th>Concentration (mM)</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMSO</td>
<td>2.4971 mL</td>
<td>1 mM</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>12.4856 mL</td>
<td>5 mM</td>
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<tr>
<td></td>
<td>24.9713 mL</td>
<td>10 mM</td>
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</tbody>
</table>

Preparing Stock Solutions

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 dibenzocyclooctadiene derivative isolated from Schisandra chinensis, has been shown to produce antioxidant effect on rodent liver and heart. IC50 value: Target: in vitro: Schisandrin B exhibits anti-inflammatory activity through modulation of the redox-sensitive transcription factors Nrf2 and NF-κB. SB inhibited mitogen-induced proliferation and cytokine secretion by lymphocytes [1]. Sch B can protect neuronal cells against oxidative challenge, presumably by functioning as a hormetic agent to sustain cellular redox homeostasis and mitoenergetic capacity in neuronal cells [2]. Sch B exerted significant neuroprotective effects against microglial-mediated inflammatory injury in microglia-neuron co-cultures. Sch B significantly downregulated pro-inflammatory cytokines, including nitrite oxide (NO),
tumor necrosis factor (TNF)-α, prostaglandin E(2) (PGE(2)), interleukin (IL)-1β and IL-6. Sch B could inhibit TGF-β induced EMT of 4T1 cells and of primary human breast cancer cells. In vivo: Similar anti-inflammatory effects of SB on lymphocyte proliferation and cytokine secretion were also observed in vivo. Treatment with Sch B in CsA-treated mice significantly suppressed the elevation of blood urea nitrogen (BUN) and serum creatinine levels and attenuated the histopathological changes. Additionally, Sch B also decreased renal MDA levels and increased GSH levels in CsA-treated mice.

References