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 for 3 years, 4°C for 2 years
- In solvent: -80°C for 6 months, -20°C for 1 month

SOLVENT & SOLUBILITY

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

Preparing Stock Solutions

<table>
<thead>
<tr>
<th>Solvent Concentration</th>
<th>Mass 1 mg</th>
<th>Mass 5 mg</th>
<th>Mass 10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>2.4971 mL</td>
<td>12.4856 mL</td>
<td>24.9713 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.4994 mL</td>
<td>2.4971 mL</td>
<td>4.9943 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.2497 mL</td>
<td>1.2486 mL</td>
<td>2.4971 mL</td>
</tr>
</tbody>
</table>

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. Sch B 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 [3]. Sch B could inhibit TGF-β induced EMT of 4T1 cells and of primary human breast cancer cells [4]. in vivo: Similar anti-inflammatory effects of SB on lymphocyte proliferation and cytokine secretion were also observed in vivo [1]. 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 [5].

REFERENCES

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