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 6 months, -20°C 1 month

SOLVENT & SOLUBILITY

In Vitro
DMSO: 14.29 mg/mL (35.68 mM; Need ultrasonic)
H_{2}O: < 0.1 mg/mL (insoluble)

Preparing Stock Solutions

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Concentration</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 mg</td>
<td>5 mg</td>
</tr>
<tr>
<td>1 mM</td>
<td>2.4971 mL</td>
<td>12.4856 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.4994 mL</td>
<td>2.4971 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.2497 mL</td>
<td>1.2486 mL</td>
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</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: ≥ 1.43 mg/mL (3.57 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.43 mg/mL (3.57 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
Schisandrin B (Wuweizisu-B) is a dibenzocyclooctadiene derivative isolated from Fructus Schisandrae, 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 microglia-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


