Rhynchophylline

Cat. No.: HY-N0387
CAS No.: 76-66-4
Molecular Formula: C₂₂H₂₈N₂O₄
Molecular Weight: 384.47
Target: NF-κB
Pathway: 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: 33.33 mg/mL (86.69 mM; Need ultrasonic)
- H₂O: < 0.1 mg/mL (insoluble)

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Mass</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td></td>
<td>2.6010 mL</td>
<td>13.0049 mL</td>
<td>26.0098 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td></td>
<td>0.5202 mL</td>
<td>2.6010 mL</td>
<td>5.2020 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td></td>
<td>0.2601 mL</td>
<td>1.3005 mL</td>
<td>2.6010 mL</td>
</tr>
</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 (6.50 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.50 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
Rhynchophylline, an alkaloid isolated from Uncaria, shows potent inhibition of lipopolysaccharide (LPS)-induced NO production in rat primary microglial cells. IC50 value: Target: In vitro: Rhynchophylline effectively suppresses release of proinflammatory cytokines in LPS-activated microglial cells and the underlying molecular mechanism for the inhibition of microglial activation; Attenuated LPS-induced production of proinflammatory cytokines such as TNF-α and IL-1β as well as NO in mouse N9 microglial cells [1]. Rhynchophylline exerts it protective action against ischemia-induced neuronal damage by preventing NMDA, muscarinic M1, and 5-HT2 receptors-mediated neurotoxicity during ischemia [3]. In vivo: The neuroprotective effect of rhynchophylline was investigated in a stroke model. Following pMCAO, rhynchophylline treatment not only ameliorated neurological deficits, infarct volume and brain edema, but also increased claudin-5 and BDNF expressions (p < 0.05). Moreover, rhynchophylline could activate PI3K/Akt/mTOR signaling while inhibiting TLRs/NF-κB.
REFERENCES


