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>Preparing Stock Solutions</th>
<th>Solvent Concentration</th>
<th>Mass 1 mg</th>
<th>Mass 5 mg</th>
<th>Mass 10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 mM</td>
<td>2.6010 mL</td>
<td>13.0049 mL</td>
<td>26.0098 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.5202 mL</td>
<td>2.6010 mL</td>
<td>5.2020 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.2601 mL</td>
<td>1.3005 mL</td>
<td>2.6010 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 (6.50 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 its 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 rynchophylline was investigated in a stroke model. Following pMCAO, rynchophylline 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 pathway [2].

REFERENCES


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