(+)-Kavain

Cat. No.: HY-B1671
CAS No.: 500-64-1
Molecular Formula: C₁₄H₁₄O₃
Molecular Weight: 230.26
Target: GABA Receptor; Sodium Channel; Calcium Channel
Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling
Storage: 4°C, sealed storage, away from moisture and light

Solvent & Solubility

In Vitro

DMSO : ≥ 125 mg/mL (542.86 mM)
* "≥" means soluble, but saturation unknown.

<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>1 mM</td>
<td>4.3429 mL</td>
<td>21.7146 mL</td>
<td>43.4292 mL</td>
<td></td>
</tr>
<tr>
<td>5 mM</td>
<td>0.8686 mL</td>
<td>4.3429 mL</td>
<td>8.6858 mL</td>
<td></td>
</tr>
<tr>
<td>10 mM</td>
<td>0.4343 mL</td>
<td>2.1715 mL</td>
<td>4.3429 mL</td>
<td></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: ≥ 2.08 mg/mL (9.03 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (9.03 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (9.03 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
(+)-Kavain, a main kavalactone extracted from Piper methysticum, has anticonvulsive properties, attenuating vascular smooth muscle contraction through interactions with voltage-dependent Na⁺ and Ca²⁺ channels[1]. (+)-Kavain is shown to bind at the α4β2δ GABAₐ receptor and potentiate GABA efficacy[2]. (+)-Kavain is used as a treatment for inflammatory diseases, its anti-inflammatory action has been widely studied[4].

IC₅₀ & Target
Na⁺, Ca²⁺ channel[1],
α4β2δ GABAₐ receptor[2].
(+)-Kavain (10-300 μM) enhances GABA-elicited responses in a concentration-dependent manner. The modulatory effect of Kavain is moderate, with only 170±23% of enhancement measured at 300 μM[2]. (+)-Kavain inhibits TNF-α secretion in cells via suppression of LITAF[4].

REFERENCES


