PEPA

Cat. No.: HY-12509
CAS No.: 141286-78-4
Molecular Formula: C₁₆H₁₆F₂N₂O₄S₂
Molecular Weight: 402.44
Target: iGluR
Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling
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: 50 mg/mL (124.24 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>2.4848 mL</td>
<td>12.4242 mL</td>
<td>24.8484 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.4970 mL</td>
<td>2.4848 mL</td>
<td>4.9697 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.2485 mL</td>
<td>1.2424 mL</td>
<td>2.4848 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 (6.21 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.21 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.21 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
PEPA is an allosteric modulator of AMPA receptors; binds to the GluA2o and GluA3o LBDs and can be utilized as an indicator of AMPA receptor heterogeneity. IC50 value: Target: AMPAR modulator in vitro: PEPA dose-dependently potentiated AMPA-induced increase of [Ca2+]. In 90% (72 out of 80) of the cells in which cyclothiazide acts, PEPA potentiated the increased [Ca2+]i induced by AMPA with pronounced cell-to-cell variation in rat hippocampal cultures [1]. PEPA bound to the binding domains of the GluA2 and GluA3 flop isoforms of AMPA receptors [2]. Coapplication of AMPA with PEPA protected hippocampal CA1 neurons from brain ischemia-induced death. Coapplication of AMPA with PEPA could prevent downregulated expression of GluR2 subunit caused by ischemia and increase BDNF expression via Lyn-ERK1/2-CREB

[1] Title: AMPA receptor as a target for treatment of ischemic brain damage
[2] Title: AMPA receptor as a target for treatment of ischemic brain damage
in vivo: PEPA (3, 10, 30mg/kg body weight) or vehicle was intraperitoneally administered into stressed mice once before the first extinction session. The significant decrease of the freezing response in the extinction sessions was only seen in the 30mg/kg PEPA-administered stressed mice, compared with vehicle-administered stressed mice [3].

REFERENCES


