DCPIB

Cat. No.: HY-103371
CAS No.: 82749-70-0
Molecular Formula: C₂₂H₂₈Cl₂O₄
Molecular Weight: 427.36
Target: Chloride Channel; Potassium Channel
Pathway: Membrane Transporter/Ion Channel
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: ≥ 125 mg/mL (292.49 mM)
* “≥” means soluble, but saturation unknown.

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>2.3399 mL</td>
<td>11.6997 mL</td>
<td>23.3995 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.4680 mL</td>
<td>2.3399 mL</td>
<td>4.6799 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.2340 mL</td>
<td>1.1700 mL</td>
<td>2.3399 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: ≥ 2.08 mg/mL (4.87 mM); Clear solution

2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.08 mg/mL (4.87 mM); Clear solution; Need ultrasonic

3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.87 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
DCPIB is a selective, reversible and potent inhibitor of volume-regulated anion channels (VRAC). DCPIB voltage-dependently activates potassium channels TREK1 and TRAAK and inhibits TRESK, TASK1 and TASK3 (IC₅₀s of 0.14, 0.95, 50.72 μM, respectively)[1]. DCPIB is also a selective blocker of swelling-induced chloride current (IₐCl,swell), with an IC₅₀ of 4.1 μM in CPAE cells[2].

| IC₅₀ & Target | IC₅₀: 0.14 μM (TRESK), 0.95 μM (TASK1), 50.72 μM (TASK3)¹, 4.1 μM (Iₖ(Cl,swell), CPAE cells)² |

REFERENCES


Caution: Product has not been fully validated for medical applications. For research use only.
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