Niflumic acid

Cat. No.: HY-B0493
CAS No.: 4394-00-7
Molecular Formula: C₁₃H₉F₃N₂O₂
Molecular Weight: 282.22
Target: Chloride 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: \( \geq 100 \text{ mg/mL} (354.33 \text{ mM}) \)
H₂O: < 0.1 mg/mL (insoluble)
* "\( \geq \)" means soluble, but saturation unknown.

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent</th>
<th>Mass</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 mM</td>
<td></td>
<td>3.5433 mL</td>
<td>17.7167 mL</td>
<td>35.4333 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td></td>
<td>0.7087 mL</td>
<td>3.5433 mL</td>
<td>7.0867 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td></td>
<td>0.3543 mL</td>
<td>1.7717 mL</td>
<td>3.5433 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: \( \geq 2.5 \text{ mg/mL} (8.86 \text{ mM}) \); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: \( \geq 2.5 \text{ mg/mL} (8.86 \text{ mM}) \); Clear solution

BIOLOGICAL ACTIVITY

Description

Niflumic acid, a Ca²⁺-activated Cl⁻ channel blocker, is an analgesic and anti-inflammatory agent used in the treatment of rheumatoid arthritis. Target: Others

Niflumic acid does not block directly calcium channels or activate potassium channels. Niflumic acid selectively reduces a component of noradrenaline- and 5-HT-induced pressor responses by inhibiting a mechanism which leads to the opening of voltage-gated calcium channels [1]. Niflumic acid molecule is completely buried in the substrate-binding hydrophobic channel. The conformations of the binding site in PLA(2) as well as that of niflumic acid are not altered upon binding [2]. Niflumic acid (NFA) produces biphasic behavior on human CLC-K channels that suggests...
the presence of two functionally different binding sites: an activating site and a blocking site [3].

REFERENCES

