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 for 3 years, 4°C for 2 years
- In solvent: -80°C for 6 months, -20°C for 1 month

**SOLVENT & SOLUBILITY**

**In Vitro**
- DMSO: ≥ 100 mg/mL (354.33 mM)
- H₂O: < 0.1 mg/mL (insoluble)

* "≥" means soluble, but saturation unknown.

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Mass</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparing Stock Solutions</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1 mM</td>
<td></td>
<td>3.5433 mL</td>
<td>17.7167 mL</td>
<td>35.4333 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td></td>
<td>0.7087 mL</td>
<td>3.543 mL</td>
<td>7.0867 mL</td>
</tr>
<tr>
<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: ≥ 2.5 mg/mL (8.86 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.86 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

