**NS6180**

Cat. No.: HY-15707  
CAS No.: 353262-04-1  
Molecular Formula: C₁₆H₁₂F₃NOS  
Molecular Weight: 323.33  
Target: 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: ≥ 100 mg/mL (309.28 mM)  
* "≥" means soluble, but saturation unknown.*

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent</th>
<th>Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1 mM</td>
<td>3.0928 mL</td>
<td>15.4641 mL</td>
<td>30.9282 mL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 mM</td>
<td>0.6186 mL</td>
<td>3.0928 mL</td>
<td>6.1856 mL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 mM</td>
<td>0.3093 mL</td>
<td>1.5464 mL</td>
<td>3.0928 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 (7.73 mM); Clear solution  
2. Add each solvent one by one: 10% DMSO >> 90% corn oil  
   Solubility: ≥ 2.5 mg/mL (7.73 mM); Clear solution

**BIOLOGICAL ACTIVITY**

**Description**  
NS6180 is a novel potent and selective KCa3.1 channel inhibitor (IC₅₀ = 9 nM) prevents T-cell activation and inflammation. IC₅₀ value: 9 nM [1] Target: KCa3.1 channel inhibitor in vitro: NS6180 inhibited cloned human KCa3.1 channels (IC₅₀ = 9 nM) via T250 and V275, the same amino acid residues conferring sensitivity to triarylmethanes such as like TRAM-34. NS6180 inhibited endogenously expressed KCa3.1 channels in human, mouse and rat erythrocytes, with similar potencies (15–20 nM). NS6180 suppressed rat and mouse splenocyte proliferation at submicromolar concentrations and potently inhibited IL-2 and IFN-γ production, while exerting smaller effects on IL-4 and TNF-α and no effect on IL-17 production [1]. In vivo: DNBS challenged rats were treated with two doses (3 and 10 mg/kg-1 b.i.d.) of NS6180 for 7 days in direct comparison with the IBD drug sulfasalazine (300 mg/kg-1 q.d.). Both...
doses of NS6180 significantly improved weight gain and decreased inflammation induced swelling of the colon as determined by relative colon weight [1].

REFERENCES
