**Product Data Sheet**

**T16Ainh-A01**

**Cat. No.:** HY-100612  
**CAS No.:** 552309-42-9  
**Molecular Formula:** \( \text{C}_{19}\text{H}_{20}\text{N}_{4}\text{O}_{3}\text{S}_{2} \)  
**Molecular Weight:** 416.52  
**Target:** Chloride Channel  
**Pathway:** Membrane Transporter/Ion Channel  
**Storage:**  
- **Powder:** -20°C for 3 years  
- **In solvent:** -80°C for 6 months  
- **-20°C:** 1 month

**SOLVENT & SOLUBILITY**

**In Vitro**  
DMF : ≥ 10 mg/mL (24.01 mM)  
DMSO : ≥ 5 mg/mL (12.00 mM)  
* "≥" 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></td>
<td><strong>Concentration</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 mM</td>
<td>2.4008 mL</td>
<td>12.0042 mL</td>
<td>24.0085 mL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 mM</td>
<td>0.4802 mL</td>
<td>2.4008 mL</td>
<td>4.8017 mL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 mM</td>
<td>0.2401 mL</td>
<td>1.2004 mL</td>
<td>2.4008 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 >> 90% corn oil  
Solubility: ≥ 2.08 mg/mL (4.99 mM); Clear solution

**BIOLOGICAL ACTIVITY**

**Description**  
T16Ainh-A01, an aminophenylthiazole, is a potent transmembrane protein 16A (TMEM16A) inhibitor, inhibiting TMEM16A-mediated chloride currents with an \( \text{IC}_{50} \) value of ~1 µM. TMEM16A (ANO1) functions as a calcium-activated chloride channel (CaCC)[1][2].

**IC\text{50} & Target**  
TMEM16A[1].

**In Vitro**  
T16Ainh-A01 (0.3-30 µM) significantly reduces both inward and outward components of \( \text{I}_{\text{ClCa}} \), and inhibits \( \text{I}_{\text{ClCa}} \) in RUICC without significantly affecting L-type Ca\text{2+} current[1].

T16Ainh-A01 (10 µM) inhibits nearly completely TMEM16A chloride current (induced by 275 nM free calcium in the pipette) at all voltages, indicating a voltage-independent block mechanism[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.
REFERENCES
