BI-3406

Cat. No.: HY-125817
CAS No.: 2230836-55-0
Molecular Formula: C₂₃H₂₅F₃N₄O₃
Molecular Weight: 462.46
Target: Ras; p38 MAPK
Pathway: GPCR/G Protein; MAPK/ERK Pathway
Storage: 4°C, stored under nitrogen
* In solvent: -80°C, 6 months; -20°C, 1 month (stored under nitrogen)

**SOLVENT & SOLUBILITY**

**In Vitro**
DMSO: 100 mg/mL (216.23 mM; Need ultrasonic)
Ethanol: 100 mg/mL (216.23 mM; Need ultrasonic)

**Preparing Stock Solutions**

<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>1 mM</td>
<td>2.1623 mL</td>
<td>10.8117 mL</td>
<td>21.6235 mL</td>
<td></td>
</tr>
<tr>
<td>5 mM</td>
<td>0.4325 mL</td>
<td>2.1623 mL</td>
<td>4.3247 mL</td>
<td></td>
</tr>
<tr>
<td>10 mM</td>
<td>0.2162 mL</td>
<td>1.0812 mL</td>
<td>2.1623 mL</td>
<td></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 (5.41 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (5.41 mM); Clear solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.41 mM); Clear solution
4. Add each solvent one by one: 10% EtOH >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (5.41 mM); Clear solution
5. Add each solvent one by one: 10% EtOH >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.41 mM); Clear solution
6. Add each solvent one by one: 10% EtOH >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.41 mM); Clear solution

**BIOLOGICAL ACTIVITY**

Description

BI-3406 (compound I-6) is an orally active, highly potent and selective inhibitor of the interaction between KRAS and Son of...
Sevenless 1 (SOS1) with an IC$_{50}$ of 6 nM. BI-3406 potently reduces the formation of GTP-loaded KRAS, and inhibits MAPK pathway signaling. BI-3406 has anticancer activity$^{[1]}$$^{[2]}$.

<table>
<thead>
<tr>
<th>IC$_{50}$ &amp; Target</th>
<th>KRAS-SOS1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6 nM (IC$_{50}$)</td>
</tr>
</tbody>
</table>

**In Vitro**

BI-3406 is an inhibitor of the interaction between KRAS and its Guanine Nucleotide Exchange Factor (GEF) SOS1. BI-3406 does not block the interaction of KRAS with SOS2 but elicits activity on a broad panel of KRAS oncogenic variants, including all major G12 and G13 oncoproteins. Down-modulation of this signaling cascade by BI-3406 in KRAS G12 or G13 mutant cells effectively limits cell proliferation$^{[2]}$.

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

**REFERENCES**
