**Sotorasib**

**Cat. No.:** HY-114277  
**CAS No.:** 2296729-00-3  
**Molecular Formula:** C₃₀H₃₀F₂N₆O₃  
**Molecular Weight:** 560.59  
**Target:** Ras  
**Pathway:** GPCR/G Protein  
**Storage:** -20°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 (178.38 mM; Need ultrasonic)  
H₂O: 33.33 mg/mL (59.46 mM; ultrasonic and adjust pH to 11 with NaOH)

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent Concentration</th>
<th>Mass  (1 mg)</th>
<th>Mass  (5 mg)</th>
<th>Mass  (10 mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 mM</td>
<td>1.7838 mL</td>
<td>8.9192 mL</td>
<td>17.8383 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.3568 mL</td>
<td>1.7838 mL</td>
<td>3.5677 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.1784 mL</td>
<td>0.8919 mL</td>
<td>1.7838 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: 5% DMSO >> 40% PEG300 >> 5% Tween-80 >> 50% saline  
   Solubility: ≥ 2.5 mg/mL (4.46 mM); Clear solution

2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
   Solubility: ≥ 2.5 mg/mL (4.46 mM); Clear solution

3. Add each solvent one by one: 10% DMSO >> 90% corn oil  
   Solubility: ≥ 2.5 mg/mL (4.46 mM); Clear solution

4. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
   Solubility: ≥ 2.08 mg/mL (3.71 mM); Clear solution

**BIOLOGICAL ACTIVITY**

**Description**  
Sotorasib (AMG-510) is a first-in-class, orally bioavailable, and selective KRAS G12C covalent inhibitor. Sotorasib irreversibly inhibits KRAS G12C by locking it in an inactive GDP-bound state. Sotorasib is the first KRAS G12C inhibitor in clinical development and leads to the regression of KRAS G12C tumors[1][2].

**IC₅₀ & Target**  
KRAS(G12C)
### In Vitro

In cellular assays, Sotorasib (AMG-510) covalently modifies KRAS G12C and inhibits KRAS G12C signaling as measured by phosphorylation of ERK1/2 (p-ERK) in all KRAS p.G12C-mutant cell lines\(^2\). Sotorasib (AMG-510; 1-10 μM; 72 hours) also potently impairs cellular viability in both NCI-H358 and MIA PaCa-2 with IC\(_{50}\) ≈0.006 μM and 0.009 μM, respectively. Non-KRASG12C lines are insensitive to Sotorasib (IC\(_{50}>7.5\) μM)\(^3\). MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**Cell Viability Assay**\(^3\)

<table>
<thead>
<tr>
<th>Cell Line:</th>
<th>NCI-H358 and MIA PaCa-2 cells</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration:</td>
<td>1-10 μM</td>
</tr>
<tr>
<td>Incubation Time:</td>
<td>72 hours</td>
</tr>
<tr>
<td>Result:</td>
<td>Potently impaired cellular viability in both NCI-H358 and MIA PaCa-2 (IC(_{50})≈0.006 μM and 0.009 μM respectively).</td>
</tr>
</tbody>
</table>

### In Vivo

In preclinical tumor models, Sotorasib (AMG-510) rapidly and irreversibly binds to KRAS G12C, providing durable suppression of the mitogen-activated protein kinase (MAPK) signaling pathway. Sotorasib (orally; once daily) is capable of inducing tumor regression in mouse models of KRAS G12C cancer\(^3\). MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### CUSTOMER VALIDATION

- J Thorac Oncol. 2021 May 7;S1556-0864(21)02132-8.

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### REFERENCES


