Mobocertinib

Cat. No.: HY-135815
CAS No.: 1847461-43-1
Molecular Formula: C₃₂H₃₉N₇O₄
Molecular Weight: 585.7
Target: EGFR
Pathway: JAK/STAT Signaling; Protein Tyrosine Kinase/RTK
Storage: Powder -20°C 3 years
          4°C  2 years

* The compound is unstable in solutions, freshly prepared is recommended.

SOLVENT & SOLUBILITY

In Vitro  
DMSO : 12.5 mg/mL (21.34 mM; Need ultrasonic)

<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>1 mM</td>
<td></td>
<td>1.7074 mL</td>
<td>8.5368 mL</td>
<td>17.0736 mL</td>
<td></td>
</tr>
<tr>
<td>5 mM</td>
<td></td>
<td>0.3415 mL</td>
<td>1.7074 mL</td>
<td>3.4147 mL</td>
<td></td>
</tr>
<tr>
<td>10 mM</td>
<td></td>
<td>0.1707 mL</td>
<td>0.8537 mL</td>
<td>1.7074 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: ≥ 1.25 mg/mL (2.13 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.25 mg/mL (2.13 mM); Clear solution

BIOLOGICAL ACTIVITY

Description  
Mobocertinib (TAK-788) is a potent and orally active inhibitor of EGFR and HER2 oncogenic mutants, including exon 20 insertions, with selectivity over WT EGFR. Antitumor activity[1][2].

IC₅₀ & Target  
<table>
<thead>
<tr>
<th>IC₅₀ &amp; Target</th>
<th>EGFR exon 20 insertion</th>
<th>HER2</th>
<th>EGFR (WT)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>35 nM (IC₅₀)</td>
<td></td>
<td>35 nM (IC₅₀)</td>
</tr>
</tbody>
</table>

In Vitro  
Mobocertinib (TAK-788) inhibits all 14 mutant variants of EGFR (IC₅₀=2.4-22 nM), and all 6 mutant variants of HER2 (IC₅₀=2.4-26 nM), more potently than it inhibited WT EGFR (IC₅₀=35 nM), including all 8 variants with exon 20 activating insertions[1].
In Vivo

In mice implanted with a patient-derived tumor containing an EGFR exon 20 activating insertion, or with engineered Ba/F3 cells containing a HER2 exon 20 activating insertion, once daily oral dosing of Mobocertinib induced regression of tumors at doses that were well tolerated (30-100 mg/kg)[1].

REFERENCES
