Tomivosertib

Cat. No.: HY-100022
CAS No.: 1849590-01-7
Molecular Formula: C₁₇H₂₀N₆O₂
Molecular Weight: 340.38
Target: MNK
Pathway: MAPK/ERK Pathway
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: 4.35 mg/mL (12.78 mM; Need ultrasonic)
H₂O: < 0.1 mg/mL (insoluble)

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent Mass</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent Concentration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 mM</td>
<td></td>
<td>2.9379 mL</td>
<td>14.6895 mL</td>
<td>29.3789 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td></td>
<td>0.5876 mL</td>
<td>2.9379 mL</td>
<td>5.8758 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td></td>
<td>0.2938 mL</td>
<td>1.4689 mL</td>
<td>2.9379 mL</td>
</tr>
</tbody>
</table>

In Vivo
1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 0.43 mg/mL (1.26 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 0.44 mg/mL (1.29 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
Tomivosertib (eFT508) is a potent, highly selective, and orally bioavailable MNK1 and MNK2 inhibitor, with IC₅₀s of 1-2 nM against both isoforms.

IC₅₀ & Target
<table>
<thead>
<tr>
<th>MNK1</th>
<th>MNK2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2 nM (IC₅₀)</td>
<td>1-2 nM (IC₅₀)</td>
</tr>
</tbody>
</table>

In Vitro
Tomivosertib (eFT508) reduces eIF4E phosphorylation dose-dependently at serine 209 (IC₅₀=2-16 nM) in tumor cell lines. In a panel of appr 50 hematological cancers, Tomivosertib shows anti-proliferative activity against multiple
DLBCL cell lines. Sensitivity to Tomivosertib in TMD8, OCI-Ly3 and HBL1 DLBCL cell lines is associated with dose-dependent decreases in production of pro-inflammatory cytokines including TNFα, IL-6, IL-10 and CXCL10. Further evaluation Tomivosertib mechanism of action demonstrates that decreased TNFα production correlates with a 2-fold decrease in TNFα mRNA half-life[1].

| In Vivo | Tomivosertib (eFT508) shows significant anti-tumor activity in the TMD8 and HBL-1 ABC-DLBCL models, both of which harbor activating MyD88 mutations. Besides, Tomivosertib combines effectively with components of R-CHOP and with novel targeted agents, including ibrutinib and venetoclax, in human lymphoma models[1]. |

REFERENCES