Ripretinib

Cat. No.: HY-112306
CAS No.: 1442472-39-0
Molecular Formula: C₂₄H₂₁BrFN₅O₂
Molecular Weight: 510.36
Target: c-Kit; PDGFR; FLT3; VEGFR; Apoptosis
Pathway: Protein Tyrosine Kinase/RTK; Apoptosis
Storage: Powder -20°C 3 years
4°C 2 years
In solvent -80°C 2 years
-20°C 1 year

SOLVENT & SOLUBILITY

In Vitro

DMSO : 25 mg/mL (48.99 mM; Need ultrasonic)

Preparing Stock Solutions

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Mass 1 mg</th>
<th>Mass 5 mg</th>
<th>Mass 10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>1.9594 mL</td>
<td>9.7970 mL</td>
<td>19.5940 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.3919 mL</td>
<td>1.9594 mL</td>
<td>3.9188 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.1959 mL</td>
<td>0.9797 mL</td>
<td>1.9594 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 >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: 2.08 mg/mL (4.08 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.08 mg/mL (4.08 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.08 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
Ripretinib (DCC-2618) is an orally bioavailable, selective KIT and PDGFRα switch-control inhibitor. Ripretinib (DCC-2618) targets and binds to both wild-type and mutant forms of KIT and PDGFRα specifically at their switch pocket binding sites, thereby preventing the switch from inactive to active conformations of these kinases and inactivating their wild-type and mutant forms. Ripretinib (DCC-2618) also inhibits multiple other kinase targets, such as FLT3 and KDR (or VEGFR-2)\(^1\)[2]. DCC-2618 exerts antineoplastic effect and induces apoptosis\(^3\).

IC₅₀ & Target
| PDGFRα | KIT |
In Vitro

Ripretinib (DCC-2618) suppresses phosphorylation of KIT and decreases the expression of phosphophorylated (p)STAT5, pAKT and pERK1/2 in neoplastic mast cells. Ripretinib inhibits the growth of ROSA\textsuperscript{KIT K509I} cells with an IC\textsubscript{50} of 34 ± 10 nM, and also induces apoptosis in these cells. Ripretinib (0.1-1.0 \( \mu \text{M} \)) inhibits IgE-dependent histamine release from basophils and spontaneous tryptase release from neoplastic mast cells, and also counteracts growth and survival of leukemic monocytes and blast cells at 0.01-5 \( \mu \text{M} \)\textsuperscript{[2]}.

Ripretinib (DCC-2618) is a pan-KIT and PDGFRA inhibitor, shows cytotoxic activity against gastrointestinal stromal tumors\textsuperscript{[4]}.

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

REFERENCES


[2]. KIT/PDGR Inhibitor DCC-2618.