Product Data Sheet

Chemical Properties

Product Name: GDC-0994
Cas No.: 1453848-26-4
M.Wt: 440.86
Formula: C21H18ClFN6O2

Chemical Name: (S)-1-(1-(4-chloro-3-fluorophenyl)-2-hydroxyethyl)-4-(2-((1-methyl-1H-pyrazol-5-yl)amino)pyrimidin-4-yl)pyridin-2(1H)-one

Canonical SMILES: CN1C(NC2=NC=C(C=CN3[C@](C4=CC(F)=C(Cl)C=C4)(([H])CO)=CC3=O)=N2)=CC=N1

Solubility: ≥44.1mg/mL in DMSO
Storage: Store at -20°C

General tips: For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shopping Condition: Evaluation sample solution: ship with blue ice
All other available size: ship with RT, or blue ice upon request

Biological Activity

Targets: MAPK Signaling
Pathways: MEK1/2

Description:

GDC-0994 is a potent and selective inhibitor of ERK1/2 with IC50 values of 1.1 and 0.3 nM, respectively [1]. The extracellular-signal-regulated kinases (ERK1 and ERK2) are members of the MAP kinase family and act downstream of the RAS/RAF/MEK/ERK signaling cascade that are commonly activated by upstream oncogenic signaling or oncogenic mutations in BRAF or RAS. ERK1/2 play
important roles in proliferation, differentiation and cell cycle progression [1]. GDC-0994 is an orally available and potent ERK1/2 inhibitor with potential antineoplastic activity. In mice bearing KRAS-mutant and BRAF-mutant human xenograft tumors, GDC-0994 exhibited significant single-agent activity and inhibited phospho-p90RSK [1]. When orally administration, GDC-0994 inhibited both activation of ERK-mediated signal transduction pathways and ERK phosphorylation, which then inhibited ERK-dependent tumor cell survival and proliferation.

Reference:

Protocol

Cell experiment:

<table>
<thead>
<tr>
<th>Cell lines</th>
<th>BRAFV600E cell lines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation method</td>
<td>The solubility of this compound in DMSO is &gt;22.1mg/mL. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.</td>
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<tr>
<td>Reacting conditions</td>
<td></td>
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<tr>
<td>Applications</td>
<td>In BRAFV600E cell lines, treatment with GDC-0994 resulted in stronger pathway inhibition and subsequent suppression of cell proliferation when compared to BRAF inhibitors.</td>
</tr>
</tbody>
</table>

Animal experiment [3]:

<table>
<thead>
<tr>
<th>Animal models</th>
<th>Mice bearing KRAS-mutant and BRAF-mutant human xenograft tumors, HT29 colorectal cancer xenograft model.</th>
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</thead>
<tbody>
<tr>
<td>Dosage form</td>
<td>Oral administration, daily</td>
</tr>
<tr>
<td>Applications</td>
<td>Daily, oral administration of GDC-0994 resulted in significant single-agent activity in KRAS-mutant and BRAF-mutant human xenograft tumors in mice.</td>
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<tr>
<td>Other notes</td>
<td>Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.</td>
</tr>
</tbody>
</table>
Reference:

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

ApexBio Technology

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