Product Data Sheet

Chemical Properties

Product Name: Quizartinib (AC220)
Cas No.: 950769-58-1
M.Wt: 560.67
Formula: C29H32N6O4S

Chemical Name: 1-(5-tert-butyl-1,2-oxazol-3-yl)-3-[4-(2-morpholin-4-yloxy)imidoazo][2,1-b][1,3]benzothiazol-2-yl]phenylurea

Canonical SMILES: CC(C)(C)C1=CC(=NO1)NC(=O)NC2=CC=C(C=C2)C3=CN4C5=C(C=C(C=C5)OCCN6CCOCC6)SC4=N3

Solubility: $\geq$ 28.0335 mg/mL in DMSO, <2.05 mg/mL in EtOH, <2.44 mg/mL in H2O

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: Tyrosine Kinase
Pathways: FLT3

Description:

Quizartinib (AC220) is a 2nd-generation FLT3 inhibitor for Flt3(ITD/WT) with IC50 value of 1.1 nM/4.2 nM, and it is ten-fold more selective for Flt3 than PDGFRα, PDGFRβ, KIT, RET and CSF-1R [1].

Quizartinib inhibits FLT3 with low nanomolar potency in cellular assays and shows high selectivity when screened against most of the human protein kinome. In addition, the combination of high
potency and selectivity exhibited by quizartinib is unique compared with CEP-701, PKC-412, MLN-518, sunitinib, and sorafenib. Quizartinib (AC220) was identified to be the most potent and selective FLT3 inhibitor with good pharmaceutical properties and superior efficacy in tumor xenograft models. A single dose of 10 mg/kg was administered to mice by oral gavage and plasma levels were measured over a 24-hour period. Quizartinib was well absorbed, achieving a maximum plasma level (Cmax) of 3.8 μM (2100 ng/mL) within 2 hours of dosing. To determine the effect of FLT3-ITD inhibition on cell growth, these results establish that AC220 has strong activity against FLT3 in biochemical and cellular assays in MV4-11 cell proliferation in the presence of 1.1 nM quizartinib [1].

As a FLT3 inhibitor for the treatment of acute myeloid leukemia (AML), when at doses as low as 1 mg/kg orally once a day, quizartinib inhibits FLT3 activity in vivo extending survival significantly. And this eradicates tumors in a FLT3-dependent mouse xenograft model, and potently inhibits FLT3 activity in primary patient cells at a dose of 10 mg/kg. In addition, quizartinib has been demonstrated a desirable safety and PK profile in humans. The emergence of resistant mutations is a common mechanism of resistance to FLT3 inhibitors used clinically, with a mutation emerging in at least 20% of the patients. This shows that the survival of AML blasts depends to a great extent on FLT3 signaling in these cases [2, 3].

Reference:

Protocol

Cell experiment:

Cell lines MV4-11 and RS4;11 cells
Preparation method The solubility of this compound in DMSO is >10 mM. 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.
Reacting conditions 20 μM; 72 hrs
Applications In MV4-11 and RS4;11 cells, AC220 inhibited the autophosphorylation of FLT3, with the IC50 values of 1.1 nM and 4.2 nM, respectively.
**Animal experiment [3]:**

<table>
<thead>
<tr>
<th>Animal models</th>
<th>Mice bearing MV4-11 tumors</th>
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<tbody>
<tr>
<td>Dosage form</td>
<td>10 mg/kg; p.o.</td>
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<tr>
<td>Applications</td>
<td>In mice bearing MV4-11 tumors, AC220 inhibited FLT3 autophosphorylation in a time-dependent manner.</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>
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</table>

**Reference:**


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**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. Shortterm 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.