Product Name: PD184352 (CI-1040)

Revision Date: 6/30/2018

Product Data Sheet

Chemical Properties

<table>
<thead>
<tr>
<th>Product Name</th>
<th>PD184352 (CI-1040)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cas No.</td>
<td>212631-79-3</td>
</tr>
<tr>
<td>M.Wt.</td>
<td>478.67</td>
</tr>
<tr>
<td>Formula</td>
<td>C17H14ClF2IN2O2</td>
</tr>
<tr>
<td>Chemical Name</td>
<td>2-(2-chloro-4-iodoanilino)-N-(cyclopropylmethoxy)-3,4-difluorobenzamide</td>
</tr>
<tr>
<td>Canonical SMILES</td>
<td>C1CC1CONC(=O)C2=C(C(=C(C=C2)F)F)NC3=C(C=C(C=C3)I)Cl</td>
</tr>
<tr>
<td>Solubility</td>
<td>≥47.9 mg/mL in DMSO</td>
</tr>
<tr>
<td>Storage</td>
<td>Store at -20°C</td>
</tr>
<tr>
<td>General tips</td>
<td>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.</td>
</tr>
<tr>
<td>Shopping Condition</td>
<td>Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request</td>
</tr>
</tbody>
</table>

Biological Activity

Targets: MAPK Signaling

Pathways: MEK1/2

Description:

PD184352 (also known as CI-1040), a benzhydroxamate derivative, is a potent and highly selective MEK1/2, two members of the family of MAPKKs, inhibitor that inhibits purified MEK1 with IC50 of 17 nM in a non-ATP and non-ERK1/2 competitive manner [1]. PD184352 binds to a hydrophobic pocket, which is located in a region with low sequence homology to other kinases, adjacent to the Mg-ATP binding site of MEK1 and MEK2 inducing a conformational change in un-phosphorylated MEK1/2 and hence inactivating the
un-phosphorylated MEK1/2 [1]. PD184352 has been found to be actively against tumors, where it inhibits the growth of colon carcinomas in mouse xenograft models [1].

**Reference:**

### Protocol

**Cell experiment:**

**Cell lines**

CCl39 cells expressing FLAG-ERK5

**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**

IC50: < 1 μM, 90 min

**Applications**

Cells were serum-starved for 16 h prior to the addition of PD184352, or an equivalent of DMSO vehicle control for 90 min. Single dishes of cells were then stimulated with 10% FBS for 15 min and immune-complex kinase assays performed with either myelin basic protein (MBP; ERK1) or GST-MEF2C (ERK5), as a substrate. PD184352 inhibited FBS-induced ERK1 activation with an IC50 below 1 μM, whereas even a dose of 20 μM PD184352 was insufficient to inhibit ERK5 activity, induced in the same manner and assayed from the same cell extracts as ERK1.

**Animal experiment [3]:**

**Animal models**

DBA/2-pcy/pcy mice

**Dosage form**

Oral administration, 400 mg/kg daily for the first week and then every third day for 6 additional weeks

**Applications**

The body weight of the PD184352-treated pcy mice was slightly but significantly lower than that of the control pcy mice. The kidney weight, kidney weight to body weight ratio, BP, and serum creatinine levels of the PD184352-treated pcy mice also were significantly less at the end of treatment. Water intake of PD184352-treated pcy mice was reduced, and urine osmolality was increased. The cystic index also was significantly lower in the PD184352-treated pcy mice than
Other notes

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.

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. 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.