Product Name: Celecoxib

**Chemical Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Name:</strong></td>
<td>Celecoxib</td>
</tr>
<tr>
<td><strong>Cas No.:</strong></td>
<td>169590-42-5</td>
</tr>
<tr>
<td><strong>M.Wt:</strong></td>
<td>381.37</td>
</tr>
<tr>
<td><strong>Formula:</strong></td>
<td>C17H14F3N3O2S</td>
</tr>
<tr>
<td><strong>Chemical Name:</strong></td>
<td>4-[(5-(4-methylphenyl)-3-(trifluoromethyl)pyrazol-1-yl)benzenesulfonamide</td>
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<tr>
<td><strong>Canonical SMILES:</strong></td>
<td>CC1=CC=C(C=C1)C2=CC(=NN2C3=CC=C(C3)S(=O)(=O)N)C(F)(F)F</td>
</tr>
<tr>
<td><strong>Solubility:</strong></td>
<td>$\geq$19.1mg/mL in DMSO</td>
</tr>
<tr>
<td><strong>Storage:</strong></td>
<td>Store at -20°C</td>
</tr>
<tr>
<td><strong>General tips:</strong></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>
</tbody>
</table>
| **Shopping Condition:** | Evaluation sample solution: ship with blue ice 
All other available size: ship with RT, or blue ice upon request |

**Biological Activity**

**Targets:** Neuroscience

**Pathways:** COX

**Description:**

Celecoxib is a highly selective inhibitor of cyclooxygenase-2 (COX-2) with IC50 value of 40nM [1]. In vitro, celecoxib not only reduced the production of PGE2 but also inhibited the downstream effects of PGE2. Celecoxib blocked migration and invasion of A549 cells increased by PGE2 in the wound healing and transwell assays. Additionally, celecoxib reduced MMP9 mRNA expression which was increased by PGE2. Moreover, celecoxib enhanced E-cadherin mRNA expression which...
was inhibited by PGE2 [2].

In vivo, celecoxib inhibited the increase in metastases of A549 cells and significantly reduced the increase in PGE2 plasma level in mice receiving unilateral pneumonectomy [2].

Reference:

Protocol

Cell experiment:

Cell lines  
A549 cells

Preparation method  
The solubility of this compound in DMSO is > 19.1 mg/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.

Reacting conditions

Applications  
In A549 cells, Celecoxib (\(\leq 10 \ \mu M\)) and PGE2 (\(\leq 12.5 \ \mu M\)) showed no effect on cell viability. However, Celecoxib reversed PGE2 (10 \(\mu M\)) increased migration and invasion of A549 cells.

Animal experiment [3]:

Animal models  
Mice received unilateral pneumonectomy

Dosage form  
100 mg/kg; p.o.; q.d.

Applications  
In mice received unilateral pneumonectomy, Celecoxib inhibited increased metastasis of A549 cells. Moreover, Celecoxib significantly inhibited the increase in PGE2 plasma level as well.

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. 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.