CA 074

Cat. No.: A1926
CAS No.: 134448-10-5
Formula: C18H29N3O6
M.Wt: 383.44
Synonyms: CA-074, CA074
Target: Proteases
Pathway: Cathepsin
Storage: Store at -20°C

Solvent & Solubility

<table>
<thead>
<tr>
<th>Mass</th>
<th>Solvent</th>
<th>1mg</th>
<th>5mg</th>
<th>10mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>DMSO</td>
<td>2.6080 mL</td>
<td>13.0398 mL</td>
<td>26.0797 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>DMSO</td>
<td>0.5216 mL</td>
<td>2.6080 mL</td>
<td>5.2159 mL</td>
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<td>10 mM</td>
<td>DMSO</td>
<td>0.2608 mL</td>
<td>1.3040 mL</td>
<td>2.6080 mL</td>
</tr>
</tbody>
</table>

≥19.17 mg/mL in DMSO; ≥31.3 mg/mL in EtOH; ≥5.91 mg/mL in H2O with ultrasonic

Preparation Stock Solutions

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Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary
Cathepsin B inhibitor

IC₅₀ & Target

Cell Viability Assay

<table>
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<th>Cell Line:</th>
<th>Human umbilical vein endothelial cells (HUVECs)</th>
</tr>
</thead>
<tbody>
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<td>Preparation method:</td>
<td>The solubility of this compound in DMSO is &gt;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.</td>
</tr>
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<td>Reacting conditions:</td>
<td>24 h; 10 mM</td>
</tr>
</tbody>
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Applications: The effects on the viability of HUVECs of cathepsin B specific inhibitors 10 mM CA-074 (96.9±1.2% viability) and its membrane-permeable analog CA-074-Me (101.7±0.4% viability) was negligible, as was that of Minocycline (102.3±2.6%) at 10mM.

Animal experiment

<table>
<thead>
<tr>
<th>Animal models:</th>
<th>Female Balb/c mice</th>
</tr>
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<td>Dosage form:</td>
<td>50 mg/kg; intraperitoneal injection</td>
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Applications: To test the therapeutic efficacy of cysteine protease inhibitors in vivo, we treated 4T1.2 tumor-bearing mice with the selective CA-074 inhibitor. Treatment of 4T1.2 tumor-bearing mice with the inhibitor had no impact on primary tumor growth. However, analysis of metastasis revealed a significant difference between in the compounds. CA-074 treatment significantly decreased metastasis to lung (P < 0.05) and bone (P < 0.05).

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.

Product Citations


References


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.