CVT-313

Cat. No.: A3336
CAS No.: 199986-75-9
Formula: C20H28N6O3
M.Wt: 400.47
Synonyms: CVT 313; NG 26; CVT313; NG26; NG-26
Target: Cell Cycle/Checkpoint
Pathway: Cyclin-Dependent Kinases
Storage: Store at -20°C

Solvent & Solubility

In Vitro

In Vitro Stock Solutions

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Mass</th>
<th>1mg</th>
<th>5mg</th>
<th>10mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td></td>
<td>2.4971 mL</td>
<td>12.4853 mL</td>
<td>24.9707 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td></td>
<td>0.4994 mL</td>
<td>2.4971 mL</td>
<td>4.9941 mL</td>
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<tr>
<td>10 mM</td>
<td></td>
<td>0.2497 mL</td>
<td>1.2485 mL</td>
<td>2.4971 mL</td>
</tr>
</tbody>
</table>

Preparation of Stock Solutions

≥20 mg/mL in DMSO; insoluble in H2O; ≥51.1 mg/mL in EtOH with gentle warming

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

Biological Activity

Shortsummary
Cdk2 inhibitor

IC₅₀ & Target

Cell Viability Assay

Cell Line: Human DLBCL cells
Preparation method: The solubility of this compound in DMSO is >20 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: 25 μM, 24 hr
Applications: CVT-313 inhibited cdk2 in several human DLBCL cells. Incubation of DLBCL cells with 25 μM CVT-313 reduced phosphorylation of endogenous Rb on Thr821. CVT-313 (48 and 72 hr) induced cell apoptosis in human DLBCL cells in a time-dependent manner. CVT-313 treatment did not result in cell cycle arrest at 20 hr or at 48 hr. Treatment of LY3, LY8 cells and LY18 cells with CVT-313 led to parallel changes in XIAP and Mcl-1 mRNA levels. In normal and tumor human/murine cell lines, CVT-313 inhibited cell proliferation with the IC50 ranging from 1.25 to 20 μM. CVT-313 (12.5 μM, 18 h) induced cell arrest at the G1/S and G2/M boundary. In nonsynchronized MRC-5 cells, treatment with CVT-313 (6.25 μM) for 36 h induced a 2 N DNA content. Treatment with CVT-313 (6.25 μM) for 4 or 8 h after serum stimulation inhibited Rb hyperphosphorylation.

Animal experiment

Animal models: Injured rat carotid artery model of restenosis
Dosage form: 0.75 and 0.25 mg/kg
Applications: In the injured rat carotid artery model of restenosis, lower doses of CVT-313 (0.75 and 0.25 mg/kg) were less efficacious, reducing mean neointimal area by about 30%, whereas the lowest dose tested (0.025 mg/kg) did not achieve any significant reduction in neointimal area. Treatment with CVT-313 for 14 days blocked restenosis in the rat carotid model.
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
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