ATM Inhibitor-1

Cat. No.: HY-112614
CAS No.: 2135639-94-8
Molecular Formula: C₂₇H₃₆N₆O₃
Molecular Weight: 492.61
Target: ATM/ATR
Pathway: Cell Cycle/DNA Damage; PI3K/Akt/mTOR
Storage: Please store the product under the recommended conditions in the COA.

BIOLOGICAL ACTIVITY

Description
ATM Inhibitor-1 is a highly potent, selective and orally active ATM inhibitor, with an IC₅₀ of 0.7 nM, shows weak activity against mTOR (IC₅₀, 21 μM), DNAPK (IC₅₀, 2.8 μM), PI3Kα (IC₅₀, 3.8 μM), PI3Kβ (IC₅₀, 10.3 μM), PI3Kγ (IC₅₀, 3 μM) and PI3Kδ (IC₅₀, 0.73 μM). ATM Inhibitor-1 exhibits anti-tumor activity[1].

IC₅₀ & Target

<table>
<thead>
<tr>
<th>IC₅₀ &amp; Target</th>
<th>ATM</th>
<th>ATM</th>
<th>PI3Kδ</th>
<th>PI3Kγ</th>
</tr>
</thead>
<tbody>
<tr>
<td>IC₅₀ (nM)</td>
<td>0.7</td>
<td>2.8</td>
<td>0.73</td>
<td>3</td>
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<tr>
<td>Target</td>
<td>IC₅₀ (Cellular assay)</td>
<td>IC₅₀</td>
<td>IC₅₀</td>
<td>IC₅₀</td>
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<tr>
<td>PI3Kα (μM)</td>
<td>3.8</td>
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<tr>
<td>PI3Kβ (μM)</td>
<td>10.3</td>
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<tr>
<td>DNAPK (μM)</td>
<td>2.8</td>
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<tr>
<td>mTOR (μM)</td>
<td>21</td>
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In Vitro
ATM Inhibitor-1 (Compound 21) is a highly potent, selective and orally active ATM Inhibitor, with an IC₅₀ of 0.7 nM, shows weak activity against mTOR (IC₅₀, 21 μM), DNAPK (IC₅₀, 2.8 μM), PI3Kα (IC₅₀, 3.8 μM), PI3Kβ (IC₅₀, 10.3 μM), PI3Kγ (IC₅₀, 3 μM) and PI3Kδ (IC₅₀, 0.73 μM)[1]. In cellular assays, ATM Inhibitor-1 exhibits IC₅₀s of 2.8 nM, >30 μM and >19 μM for ATM, ATR/PI3Kα and PI3Kβ/mTOR, respectively[1].

In Vivo
ATM Inhibitor-1 (Compound 21; 50 mg/kg p.o. once daily for 3 days every week starting 24 h post-irinotecan dosing, 21 days) in combination with 50 mg/kg irinotecan significantly reduces tumor growth in SW620 mice model[1].

Animal Model: SW620 mice model[1]
Dosage: 50 mg/kg
Administration: P.O., once daily for 3 days every week starting 24 h post-irinotecan dosing, 21 days
Result: Inhibited the growth of tumor combined with 50 mg/kg irinotecan in SW620 mice model.

REFERENCES

Product Data Sheet
Inhibitors • Agonists • Screening Libraries
www.MedChemExpress.com