Kinetin riboside

Cat. No.: HY-101055
CAS No.: 4338-47-0
Molecular Formula: C₁₅H₁₇N₅O₅
Molecular Weight: 347.33
Target: Apoptosis
Pathway: Apoptosis
Storage: Powder  
-20°C 3 years  
4°C 2 years  
In solvent  
-80°C 6 months  
-20°C 1 month

**SOLVENT & SOLUBILITY**

**In Vitro**
DMSO: ≥ 29 mg/mL (83.49 mM)  
*"≥" means soluble, but saturation unknown.

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent Mass Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1 mM</td>
<td>5 mM</td>
<td>10 mM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.8791 mL</td>
<td>14.3955 mL</td>
<td>28.7911 mL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.5758 mL</td>
<td>2.8791 mL</td>
<td>5.7582 mL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.2879 mL</td>
<td>1.4396 mL</td>
<td>2.8791 mL</td>
</tr>
</tbody>
</table>

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

**In Vivo**
1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
   Solubility: ≥ 2.5 mg/mL (7.20 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
   Solubility: ≥ 2.5 mg/mL (7.20 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil  
   Solubility: ≥ 2.5 mg/mL (7.20 mM); Clear solution

**BIOLOGICAL ACTIVITY**

**Description**
Kinetin riboside, a cytokinin analog, can induce apoptosis in cancer cells. It inhibits the proliferation of HCT-15 cells with an IC₅₀ of 2.5 μM.

**IC₅₀ & Target**
IC₅₀: 2.5 μM (HCT-15 cells)[¹]
**In Vitro**

Kinetin riboside displays antiproliferative and apoptogenic activity against various human cancer cell lines. Kinetin riboside is able to inhibit the proliferation in HCT-15 human colon cancer cells in a dose-dependent manner (IC$_{50}$=2.5 μM)$^{[1]}$. Kinetin riboside induces apoptosis in HeLa and mouse melanoma B16F-10 cells. Kinetin riboside disrupts the mitochondrial membrane potential and induces the release of cytochrome c and activation of caspase-3. Bad are up-regulated while Bcl-2 is down-regulated under kinetin riboside exposure$^{[2]}$.

**In Vivo**

Kinetin riboside significantly suppresses tumor growth. The most effective anti-melanoma response is elicited at 40 mg/kg$^{[2]}$.

**PROTOCOL**

**Cell Assay**$^{[2]}$

HeLa and mouse melanoma B16F-10 cells are treated with 5, 10, 20 μM kinetin riboside for 48 h. 15 μL of MTT solution (5 mg/mL) is added to each well and cells are maintained for 4 h at 37°C. Hundred microlitres of solubilizing solution is then added. After an overnight incubation at room temperature, absorbance at 490 nm is measured$^{[2]}$.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**Animal Administration**$^{[2]}$

Mice: Male C57BL/6 mice are injected B16 F-10 cells. After 5 days for tumor growth, kinetin riboside (10, 20, 40 mg/kg) is injected to tumor mass directly. Drug injection is performed once a 3 days for three times. After third injection of drug, mice are kept for 3 days with no injection and tumor mass is removed from each mouse and weighed$^{[2]}$.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**REFERENCES**
