ML364

**Cat. No.:** HY-100900  
**CAS No.:** 1991986-30-1  
**Molecular Formula:** C₂₄H₁₈F₃N₃O₃S₂  
**Molecular Weight:** 517.54  
**Target:** Deubiquitinase  
**Pathway:** Cell Cycle/DNA Damage  
**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: ≥ 33 mg/mL (63.76 mM)  
*“≥” means soluble, but saturation unknown.*

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>DMSO (mg/mL)</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 mM</strong></td>
<td></td>
<td>1.9322 mL</td>
<td>9.6611 mL</td>
<td>19.3222 mL</td>
</tr>
<tr>
<td><strong>5 mM</strong></td>
<td></td>
<td>0.3864 mL</td>
<td>1.9322 mL</td>
<td>3.8644 mL</td>
</tr>
<tr>
<td><strong>10 mM</strong></td>
<td></td>
<td>0.1932 mL</td>
<td>0.9661 mL</td>
<td>1.9322 mL</td>
</tr>
</tbody>
</table>

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

**BIOLOGICAL ACTIVITY**

**Description**  
ML364 is a selective ubiquitin specific peptidase 2 (USP2) inhibitor (IC₅₀=1.1 μM) with anti-proliferative activity, which directly binds to USP2 (Kₐd=5.2 μM), induces an increase in cellular cyclin D1 degradation and causes cell cycle arrest. ML364 increases the levels of mitochondrial ROS and decreases in the intracellular content of ATP[1][2].

**IC₅₀ & Target**  
IC₅₀: 1.1 μM (USP2)[1]  
Kd: 5.2 μM (USP2)[1]

**In Vitro**  
ML364 (5-20 μM; 24-48 hours) inhibits LnCAP and MCF7 cells viability in a dose-dependent manner[1]. ML364 (10 μM; 2-24 hours) reduces cyclin D1 protein levels in a time-, dose-, and proteasome-dependent manner in HCT116 cells and Mino cells[1].

Cell Viability Assay[1]
<table>
<thead>
<tr>
<th>Cell Line</th>
<th>Concentration</th>
<th>Incubation Time</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>LnCAP, MCF7 cells</td>
<td>5, 10, 15, 20 μM</td>
<td>24, 48 hours</td>
<td>LnCAP and MCF7 cells showed a decrease in cell viability in a dose-dependent manner.</td>
</tr>
</tbody>
</table>

**Western Blot Analysis**

<table>
<thead>
<tr>
<th>Cell Line</th>
<th>Concentration</th>
<th>Incubation Time</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCT116, Mino cells</td>
<td>2, 4, 8, 16, 24 hours</td>
<td>10 μM</td>
<td>Reduced cyclin D1 protein levels in a time-, dose-, and proteasome-dependent manner in HCT116 cells and Mino cells.</td>
</tr>
</tbody>
</table>

**REFERENCES**


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