Sirtinol

Cat. No.: HY-13515
CAS No.: 410536-97-9
Molecular Formula: C₂₆H₂₂N₂O₂
Molecular Weight: 394.47
Target: Sirtuin; Autophagy; Apoptosis
Pathway: Cell Cycle/DNA Damage; Epigenetics; Autophagy; 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 : 10 mg/mL (25.35 mM; Need ultrasonic)

Preparing Stock Solutions

<table>
<thead>
<tr>
<th>Solvent Concentration</th>
<th>Mass (1 mg)</th>
<th>Mass (5 mg)</th>
<th>Mass (10 mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>2.5350 mL</td>
<td>12.6752 mL</td>
<td>25.3505 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.5070 mL</td>
<td>2.5350 mL</td>
<td>5.0701 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.2535 mL</td>
<td>1.2675 mL</td>
<td>2.5350 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: ≥ 1 mg/mL (2.54 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
Sirtinol is a sirtuin (SIRT) inhibitor, with IC₅₀ values of 48 μM, 57.7 μM and 131 μM for ySir2, hSIRT2 and hSIRT2, respectively[1][2][3][4].

IC₅₀ & Target

<table>
<thead>
<tr>
<th>ySir2</th>
<th>hSIRT2</th>
<th>hSIRT1</th>
</tr>
</thead>
<tbody>
<tr>
<td>48 μM (IC₅₀)</td>
<td>57.7 μM (IC₅₀)</td>
<td>131 μM (IC₅₀)</td>
</tr>
</tbody>
</table>

In Vitro
Sirtinol reduces the growth of MCF-7 cells in a concentration- and time-dependent manner. The IC₅₀ values of sirtinol are 48.6 μM and 43.5 μM after 24 and 48 h of treatment, respectively. Sirtinol significantly decreases SIRT1 expression and increases the acetylated p53 level[1]. Sirtinol attenuates the proliferation and induces apoptosis of nonsmall cell lung cancer (NSCLC) H1299 cells and causes the significantly increased level of FoxO3a, a proapoptotic transcription factor targeted by Sirt1[2].

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

Sirtinol has anti-inflammatory effects through direct inhibition of HNE activity and attenuates HNE-induced and LPS-mediated tissue or organ injury[3].

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## PROTOCOL

### Cell Assay [2]

Sirtinol is dissolved in 100% DMSO at concentration of 10 mM and stored at −20°C until use. The cell proliferation of H1299 cells is determined by trypan blue dye exclusion assay. Human nonsmall cell lung cancer (NSCLC) cells are seeded in 12-well plates and treated with indicated concentrations of sirtinol (0, 10, 20, and 50 μM) for 24 h and 48 h, respectively. After incubation, the cells are stained by 0.2% trypan blue and counted by Countess[2].

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### Animal Administration [3]

Mice: 30 male mice (20–25 g, 7–8 weeks old) are used in this model. Briefly, mice are randomly divided into five groups; then mice are intraperitoneally injected with 50 μL DMSO (vehicle group) or sirtinol (2.5 or 5.0 mg/kg body weight). After 1 h, paw inflammation is induced. The thickness of the paw is measured before and after HNE or saline injection[3].

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

## CUSTOMER VALIDATION

- Life Sci. 2021 Mar 3;119299.

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## REFERENCES


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