**Sirtinol**

**Cat. No.**: HY-13515  
**CAS No.**: 410536-97-9  
**Molecular Formula**: C\textsubscript{26}H\textsubscript{22}N\textsubscript{2}O\textsubscript{2}  
**Molecular Weight**: 394.47  
**Target**: Sirtuin; Autophagy  
**Pathway**: Cell Cycle/DNA Damage; Epigenetics; Autophagy  
**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: 6.5 mg/mL (16.48 mM; Need ultrasonic)

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>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>
<td></td>
</tr>
<tr>
<td>5 mM</td>
<td>0.5070 mL</td>
<td>2.5350 mL</td>
<td>5.0701 mL</td>
<td></td>
</tr>
<tr>
<td>10 mM</td>
<td>0.2535 mL</td>
<td>1.2675 mL</td>
<td>2.5350 mL</td>
<td></td>
</tr>
</tbody>
</table>

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

**BIOLOGICAL ACTIVITY**

**Description**  
Sirtinol is a sirtuin inhibitor, with IC\textsubscript{50} of 48 μM, 57.7 μM and 131 μM for ySir2, hSIRT2 and hSIRT2, respectively.

**IC\textsubscript{50} & Target**  
ySir2, IC50: 48 μM; hSIRT2, IC50: 57.7 μM; hSIRT1, IC50: 131 μM

**In Vitro**  
Sirtinol reduces the growth of MCF-7 cells in a concentration- and time-dependent manner. The IC\textsubscript{50} 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\textsuperscript{[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\textsuperscript{[2]}.

**In Vivo**  
Sirtinol has anti-inflammatory effects through direct inhibition of HNE activity and attenuates HNE-induced and LPS-mediated tissue or organ injury\textsuperscript{[3]}.  

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\textsuperscript{1} Chua, M.Y., et al. (2018).  
\textsuperscript{2} Ji, J., et al. (2019).  
\textsuperscript{3} Li, F., et al. (2020).
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 Countess².

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

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 injection³.

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

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REFERENCES


Caution: Product has not been fully validated for medical applications. For research use only.

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