Cordycepin

Cat. No.: HY-N0262  
CAS No.: 73-03-0  
Molecular Formula: C₁₀H₁₃N₅O₃  
Molecular Weight: 251.24  
Target: MMP; Autophagy  
Pathway: Metabolic Enzyme/Protease; Autophagy  
Storage: Powder -20°C 3 years  
In solvent -80°C 6 months -20°C 1 month

SOLVENT & SOLUBILITY

In Vitro  
DMSO : 50 mg/mL (199.01 mM; Need ultrasonic)  
H₂O : 4 mg/mL (15.92 mM; Need ultrasonic)

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent Mass</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Concentration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 mM</td>
<td>3.9803 mL</td>
<td>19.9013 mL</td>
<td>39.8026 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.7961 mL</td>
<td>3.9803 mL</td>
<td>7.9605 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.3980 mL</td>
<td>1.9901 mL</td>
<td>3.9803 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 (9.95 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
   Solubility: ≥ 2.5 mg/mL (9.95 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil  
   Solubility: ≥ 2.5 mg/mL (9.95 mM); Clear solution

BIOLOGICAL ACTIVITY

Description  
Cordycepin, which is a nucleoside derivative isolated from Cordyceps, inhibits IL-1β-induced MMP-1 and MMP-3 expression in rheumatoid arthritis synovial fibroblasts (RASFs) in a dose-dependent manner.

IC₅₀ & Target  
<table>
<thead>
<tr>
<th>MMP-1</th>
<th>MMP-3</th>
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</thead>
</table>

In Vitro  
Cordycepin is a potent inhibitor of IL-1β-induced chemokine production and MMP expression and strongly blocks
the p38/JNK/AP-1 signalling pathway in RASFs. The effect of Cordycepin on cellular toxicity of RASFs is assessed using MTT assay. Treatment of RASFs with Cordycepin (50 μM or 100 μM) for 24 h does not cause any significant change in cell viability. However, cell viability is slightly decreased when cells are incubated with 100 μM Cordycepin for 48 h[1].

PROTOCOL

Cell Assay

RASFs (2×10⁴ cells/well) are treated with various concentrations of Cordycepin (50 μM or 100 μM). After incubation for 1 h, 12 h and 24 h, cells are washed twice with PBS, MTT (0.5 mg/mL PBS) is added to each well and incubated at 37°C for 30 min. Formazan crystals formed are dissolved by adding DMSO (100 μL/well) and the absorbance is read at 570 nm using a microplate reader[1].

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

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REFERENCES