NIM811

Cat. No.: HY-P0025
CAS No.: 143205-42-9
Molecular Formula: C₆₂H₁₁₁N₁₁O₁₂
Molecular Weight: 1202.61
Target: HCV; Mitochondrial Metabolism
Pathway: Anti-infection; Metabolic Enzyme/Protease
Storage: Powder
-80°C 2 years
-20°C 1 year
In solvent
-80°C 6 months
-20°C 1 month

**SOLVENT & SOLUBILITY**

**In Vitro**
DMSO : ≥ 100 mg/mL (83.15 mM)
H₂O : < 0.1 mg/mL (insoluble)
* "≥" means soluble, but saturation unknown.

<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>1 mM</td>
<td>0.8315 mL</td>
<td>4.1576 mL</td>
<td>8.3152 mL</td>
<td></td>
</tr>
<tr>
<td>5 mM</td>
<td>0.1663 mL</td>
<td>0.8315 mL</td>
<td>1.6630 mL</td>
<td></td>
</tr>
<tr>
<td>10 mM</td>
<td>0.0832 mL</td>
<td>0.4158 mL</td>
<td>0.8315 mL</td>
<td></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: ≥ 2.75 mg/mL (2.29 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.75 mg/mL (2.29 mM); Clear solution

**BIOLOGICAL ACTIVITY**

**Description**
NIM811 ((Melle-4)cyclosporin; SDZ NIM811) is a potent and bioavailable mitochondrial permeability transition and cyclophilin dual inhibitor, which exhibits potent in vitro activity against hepatitis C virus (HCV) [1][2].

**IC₅₀ & Target**
Cyclophilin[1], Mitochondrial Permeability Transition Inhibitor[2]

**In Vitro**
NIM811 induces a concentration-dependent reduction of HCV RNA in the replicon cells with an IC₅₀ of 0.66 μM at 48 h. In addition, the combination of NIM811 with alpha interferon significantly enhances anti-HCV activities without
causing any increase of cytotoxicity\[1\]. NIM811 blocks the mitochondrial permeability transition induced by calcium and inorganic phosphate\[2\].

<table>
<thead>
<tr>
<th>In Vivo</th>
<th>NIM811 prevents mitochondrial depolarization thereby attenuates liver injury, stimulates regeneration and improves liver function and survival[3].</th>
</tr>
</thead>
</table>

**PROTOCOL**

**Cell Assay** \[1\]

The antiviral activity and cytotoxicity of compounds are determined using an HCV replicon cell line (Huh-Luc/neo-ET) containing a luciferase reporter gene. Briefly, 5,000 replicon cells are seeded in each well of 96-well tissue culture plates and are allowed to attach in complete culture medium without G418 overnight. On the next day, the culture medium is replaced with medium containing serially diluted NIM811 in the presence of 10% FBS and 0.5% DMSO. After a 48-h NIM811 treatment, the remaining luciferase activities in the cells are determined\[1\]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**Animal Administration** \[3\]

Mice: Male C57BL/6 mice (8-12 weeks) are gavaged with NIM811, 10 mg/kg or an equal volume of vehicle containing 8.3% polyethoxylated castor oil and 8.3% ethanol at 2 h before surgery. Mice undergo massive hepatectomy or sham-operation under ether anesthesia. NIM811 (5 mg/kg) or vehicle is gavaged daily post-operatively for 2 days. Mice are observed for 21 days for survival\[3\]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**REFERENCES**


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

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