Spiramycin

Cat. No.: HY-100593
CAS No.: 8025-81-8
Molecular Formula: C₄₃H₇₄N₂O₁₄
Molecular Weight: 843.05
Target: Bacterial; Parasite
Pathway: Anti-infection
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 : ≥ 100 mg/mL (118.62 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

<table>
<thead>
<tr>
<th>Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>1.1862 mL</td>
<td>5.9308 mL</td>
<td>11.8617 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.2372 mL</td>
<td>1.1862 mL</td>
<td>2.3723 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.1186 mL</td>
<td>0.5931 mL</td>
<td>1.1862 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 (2.97 mM); Clear solution

2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (2.97 mM); Clear solution

3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (2.97 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
Spiramycin (Rovamycin) is a macrolide antibiotic produced by Streptomyces ambofaciens with against bacteria and Toxoplasma gondii activities, and also has antiparasitic effect. Spiramycin is composed of a 16-member lactone ring, on which three sugars (mycaminose, forosamine, and mycarose) are attached[1][2].

IC₅₀ & Target
Bacterial[1]
In Vitro

Spiramycin (24 hours; 1-1000 μM; T. gondii infected HeLa cells and HeLa cells) treatment reduces the cytotoxicity, and shows anti-Toxoplasma gondii activity, with IC₅₀ values of 189 μM for HeLa cells; and 262 μM for T. gondii-infected HeLa cells[3].

**Cell Cytotoxicity Assay[3]**

<table>
<thead>
<tr>
<th>Cell Line</th>
<th>T. gondii infected HeLa cells and HeLa cells</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration:</td>
<td>1-1000 μM</td>
</tr>
<tr>
<td>Incubation Time:</td>
<td>24 hours</td>
</tr>
<tr>
<td>Result:</td>
<td>Reduced the cytotoxicity.</td>
</tr>
</tbody>
</table>

In Vivo

Spiramycin (100 mg/kg; intraperitoneal injection; every day; for 4 days; female KM mice) treatment reduces the number of tachyzoites, and reduces hepatotoxicity and significantly enhances antioxidative effects. Spiramycin treatment also decreases in the degree of granulomatous inflammation in the liver[3].

**Animal Model:**

36 female KM mice with T. gondii[3]

**Dosage:**

100 mg/kg

**Administration:**

Intraperitoneal injection; every day; for 4 days

**Result:**

The number of tachyzoites was significantly reduced. Reduced hepatotoxicity and significantly enhanced antioxidative effects. Granuloma and cyst formation were inhibited.

REFERENCES


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

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