Oxytetracycline

Cat. No.: HY-B0275
CAS No.: 79-57-2
Molecular Formula: C₂₂H₂₄N₂O₉
Molecular Weight: 460.43
Target: Bacterial
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 : ≥ 50 mg/mL (108.59 mM)
H₂O : < 0.1 mg/mL (insoluble)

* "≥" means soluble, but saturation unknown.

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<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></td>
<td>2.1719 mL</td>
<td>10.8594 mL</td>
<td>21.7188 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td></td>
<td>0.4344 mL</td>
<td>2.1719 mL</td>
<td>4.3438 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td></td>
<td>0.2172 mL</td>
<td>1.0859 mL</td>
<td>2.1719 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 (5.43 mM); Clear solution

2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.43 mM); Clear solution

3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.43 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Oxytetracycline is a tetracycline analog isolated from the actinomycete streptomycyes rimosus and used in a wide variety of clinical conditions. Target: Antibacterial

Oxytetracycline was the second of the broad-spectrum tetracycline group of antibiotics to be discovered. Oxytetracycline works by interfering with the ability of bacteria to produce essential proteins. Without these proteins, the bacteria cannot grow, multiply and increase in numbers.
Oxytetracycline therefore stops the spread of the infection and the remaining bacteria are killed by the immune system or eventually die. Oxytetracycline is a broad-spectrum antibiotic, active against a wide variety of bacteria. However, some strains of bacteria have developed resistance to this antibiotic, which has reduced its effectiveness for treating some types of infections [1, 2].

REFERENCES

[1]. Elia, A.C., et al., Transferability of oxytetracycline (OTC) from feed to carp muscle and evaluation of the antibiotic effects on antioxidant systems in liver and kidney. Fish Physiol Biochem, 2014.