Ceftobiprole

Cat. No.: HY-112579  
CAS No.: 209467-52-7  
Molecular Formula: C₂₀H₂₂N₈O₆S₂  
Molecular Weight: 534.57  
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: 5 mg/mL (9.35 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></td>
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</tr>
<tr>
<td>1 mM</td>
<td></td>
<td>1.8707 mL</td>
<td>9.3533 mL</td>
<td>18.7066 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td></td>
<td>0.3741 mL</td>
<td>1.8707 mL</td>
<td>3.7413 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td></td>
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</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: ≥ 0.5 mg/mL (0.94 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 0.5 mg/mL (0.94 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 0.5 mg/mL (0.94 mM); Clear solution

BIOLOGICAL ACTIVITY

Description  
Ceftobiprole (Ro 63-9141) is a broad-spectrum cephalosporin with activity against Methicillin-resistant staphylococcus aureus (MRSA) with the MIC₉₀ value of 2 μg/mL[1].

IC₅₀ & Target  
MIC₉₀: 2 μg/mL (MRSA)[1]

In Vitro  
Ceftobiprole has demonstrates activity against important gram-positive bacteria, including S. pneumonia (PRSP),
Methicillin-resistant S. aureus (MRSA), and E. faecalis with MIC₉₀ values of 0.25, 2, and 2 mcg/mL, respectively.

Ceftobiprole has also demonstrated potent in vitro activity against several clinical isolates of community-associated Methicillin-resistant S. aureus (CA-MRSA), S. aureus (VISA), and S. aureus (VRSA), with a minimum inhibitory concentration (MIC) of 2 mcg/mL[1]. Ceftobiprole is highly active against S. aureus, with MICs ranging from 0.12 to 4 mg/L (only one resistant strain, MIC of 4 mg/L). Furthermore, Ceftobiprole is twice more active on Methicillin-susceptible S. aureus (MSSA) strains with MIC₅₀ and MIC₉₀ of 0.5 mg/L than on MRSA strains with MIC₅₀ and MIC₉₀ of 1 mg/L. Moreover, Panton-Valentine leukocidin (PVL)+MRSA are slightly more susceptible to Ceftobiprole (MIC₅₀ of 0.5 mg/L and MIC₉₀ of 1 mg/L) than PVL-MRSA (MIC₅₀ and MIC₉₀ of 1 mg/L)[2].

REFERENCES
