Ceftaroline fosamil

Cat. No.: HY-14737
CAS No.: 400827-46-5
Molecular Formula: C₂₄H₂₅N₈O₁₀PS₄
Molecular Weight: 744.74
Target: Bacterial; Antibiotic
Pathway: Anti-infection
Storage: Powder -20°C 3 years
In solvent -80°C 6 months
-20°C 1 month

SOLVENT & SOLUBILITY

In Vitro

DMSO : 30 mg/mL (40.28 mM; Need ultrasonic and warming)

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>1.3428 mL</td>
<td>6.7138 mL</td>
<td>13.4275 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.2686 mL</td>
<td>1.3428 mL</td>
<td>2.6855 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.1343 mL</td>
<td>0.6714 mL</td>
<td>1.3428 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: ≥ 2.17 mg/mL (2.91 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.17 mg/mL (2.91 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.17 mg/mL (2.91 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Ceftaroline fosamil (TAK-599) is a cephalosporin with activity against Gram-positive pathogens, including methicillin-resistant Staphylococcus aureus (MRSA).

In Vivo

Ceftaroline fosamil is effective against all 10 MRSA isolates used in the dose-ranging studies and requires approximately 17 to 43% ft>MIC (the percentage of time that free drug concentrations remain above the MIC) to produce a 1-log₁₀ kill[1]. The Ceftaroline Fosamil treatment results in mean reductions of 1.1 to 2.4 log₁₀ CFU, with no relationship to the Ceftaroline Fosamil MIC. The use of high inocula does not affect the Ceftaroline Fosamil efficacy.
against the three strains tested, with mean decreases of 2.0 to 3.0 \( \log_{10} \) CFU\(^2\).

**PROTOCOL**

**Animal Administration** [1]

Seventeen clinical S. aureus isolates (2 MSSA, 15 MRSA) are studied using the neutropenic lung infection model. Beginning 3 h after inoculation, groups of six mice receive treatment with Ceftaroline fosamil over a 24 h period. Ceftaroline fosamil doses are administered as 0.2 mL subcutaneous injections. Control animals are administered normal saline at the same volume, route, and frequency as the treatment regimens[1].

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

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**REFERENCES**
