Vaborbactam

Cat. No.: HY-19930
CAS No.: 1360457-46-0
Molecular Formula: C_{12}H_{16}BNO_{5}S
Molecular Weight: 297.14
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

H_{2}O: 5.26 mg/mL (17.70 mM; Need ultrasonic)

Preparation

<table>
<thead>
<tr>
<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>3.3654 mL</td>
<td>16.8271 mL</td>
<td>33.6542 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.6731 mL</td>
<td>3.3654 mL</td>
<td>6.7308 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.3365 mL</td>
<td>1.6827 mL</td>
<td>3.3654 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: 108 mM sodium carbonate
Solubility: 25 mg/mL (84.14 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description
Vaborbactam (RPX7009) is a cyclic boronic acid pharmacophore β-lactamase inhibitor.

In Vitro
Vaborbactam is a broad spectrum of inhibition of β-lactamases, with particularly potent activity against KPC, CTX-M, SHV, and CMY enzymes\[1\]. Vaborbactam restores SM 7338 activity for 72.7 to 98.1% of CPE isolates at ≤2 μg/mL, and maximum potentiation is achieved with fixed concentrations of ≥8 μg/mL of the inhibitor (≥96.5% of isolates are inhibited at ≤2 μg/mL of SM 7338-vaborbactam). SM 7338-vaborbactam with a fixed concentration of 8 μg/mL of the inhibitor (MIC50, ≤0.06 μg/mL for all organisms) inhibits 93.7% of the CPE isolates displaying elevated SM 7338 MICs at ≤1 μg/mL\[2\]. By forming a reversible dative bond with the blactamase, vaborbactam acts as a competitive inhibitor and is not hydrolyzed by the b-lactamase\[3\].

In Vivo
Vaborbactam is well tolerated and has a half-life of 1.23 h, and steadystate volume of distribution of 21.0 L in subjects
CUSTOMER VALIDATION


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REFERENCES

