TP-6076 is a novel, full-synthetic tetracycline antibiotic of the tetracycline class. It is currently being tested against a variety of resistant pathogens, including multidrug-resistant strains of Acinetobacter baumannii and Enterobacteriaceae. This study aimed to further characterize its activity against Carbapenem-resistant Enterobacteriaceae and Acinetobacter baumannii isolates.

**Abstract**

TP-6076 is a novel, fully-synthetic antibiotic of the tetracycline class with in vitro activity against Gram-negative pathogens, including multidrug-resistant strains of Acinetobacter baumannii and Enterobacteriaceae. To further characterize its activity in vitro, TP-6076 was tested against new reference panels made available by the FDA and CDC for the testing of new antibacterial agents, as well as a panel of mo-1 positive Enterobacteriaceae from clinical and environmental sources.

**Methods**

Using Clinical and Laboratory Standards Institute methodology, minimal inhibitory concentration (MIC) values for antibiotics were determined for TP-6076 against isolates from the FDA CDC Antimicrobial resistance bank, including the carbapenem breakpoint and carbapenemase detection, carbapenemase diversity, Acinetobacter baumannii, novel antibiotic resistance, and cefazolin/tazobactam panels, and isolates expressing the mo-1 polymyxin resistance gene. The TP-6076 MIC₉₀ values and ranges against Enterobacteriaceae and A. baumannii isolates from all panels are shown in the Table. TP-6076 maintained an MIC₉₀ value of less than or equal to 0.25 μg/mL against all Enterobacteriaceae and Acinetobacter isolates tested.

**Introduction**

TP-6076 is a novel, fully-synthetic fluorescein antibiotic of the tetracycline class in clinical development for treatment of infections caused by multidrug-resistant Gram-negative pathogens. TP-6076 has historically exhibited potent in vitro activity against Gram-negative pathogens, including extended-spectrum β-lactamase and carbapenemase-producing Enterobacteriaceae as well as multidrug-resistant strains of Acinetobacter baumannii.

**Results**

Table 1. Activity of TP-6076 and Comparators Against Gram-Negative Isolates from the CDC Antimicrobial Resistance Bank

<table>
<thead>
<tr>
<th>Isolates</th>
<th>TP-6076 MIC (μg/mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>E. coli</td>
<td>(0.004-0.25)</td>
</tr>
<tr>
<td>P. aeruginosa</td>
<td>(0.25-&gt;32)</td>
</tr>
<tr>
<td>A. baumannii</td>
<td>(0.25-&gt;32)</td>
</tr>
</tbody>
</table>

TP-6076 maintained potency against carbapenem-resistant Enterobacteriaceae and A. baumannii isolates across a wide diversity of resistance types.

**Conclusions**

TP-6076 maintained potency against carbapenem-resistant Enterobacteriaceae and A. baumannii isolates, including those containing carbapenemase or mo-1 genes prevalent in contemporary isolates.