**Results**

**CST-R**

**Results Summary**

MBL-positive

- Multidrug resistant (MDR) was defined as resistant by EUCAST breakpoints to at least two drug classes (cephalosporins, monobactams, 
  - β-lactamases, and serine carbapenemases. This study evaluated the development of this combination for use against these pathogens.

In **2015**, including difficult-to-treat meropenem non-susceptible isolates (of which 21.8% carried MBLs), minimal inhibitory concentrations (MICs) of aztreonam-avibactam, meropenem, cefepime, and colistin were tested with aztreonam-avibactam MIC values ≤0.12 mg/L, including isolates carrying MBLs and/or ESBLs.

- aztreonam-avibactam was highly potent against aztreonam non-susceptible, colistin-resistant, MDR, and MBL-positive subsets (Table). >99.9% of isolates tested with aztreonam-avibactam MIC values ≤0.12 mg/L, including isolates carrying MBLs and/or ESBLs.

**Table 1. In vitro activity of aztreonam-avibactam and comparator agents tested against Enterobacteriaceae collected in Europe.**

<table>
<thead>
<tr>
<th>Agent</th>
<th>MIC90 (mg/L)</th>
<th>0.06</th>
<th>0.12</th>
<th>0.5</th>
<th>8</th>
<th>32</th>
<th>256</th>
<th>128</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aztreonam</td>
<td>≤0.015</td>
<td>≤0.06</td>
<td>≤0.12</td>
<td>≤0.5</td>
<td>8</td>
<td>16</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>Avibactam</td>
<td>≤0.002</td>
<td>≤0.06</td>
<td>≤0.12</td>
<td>≤0.5</td>
<td>8</td>
<td>16</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>Aztreonam-avibactam</td>
<td>≤0.015</td>
<td>≤0.06</td>
<td>≤0.12</td>
<td>≤0.5</td>
<td>8</td>
<td>16</td>
<td>128</td>
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<tr>
<td>Meropenem</td>
<td>≤0.12</td>
<td>≤0.25</td>
<td>≤0.5</td>
<td>1</td>
<td>8</td>
<td>16</td>
<td>32</td>
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<tr>
<td>Cefepime</td>
<td>≤0.12</td>
<td>≤0.25</td>
<td>≤0.5</td>
<td>1</td>
<td>8</td>
<td>16</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Colistin</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
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</tbody>
</table>

**Conclusions**

- Aztreonam-avibactam was highly potent in vitro against Enterobacteriaceae collected in Europe in 2015, including difficult-to-treat meropenem non-susceptible isolates (of which 21.8% carried MBLs), and was fully susceptible to aztreonam-avibactam MIC values ≤0.12 mg/L, including isolates carrying MBLs and/or ESBLs.

**References and Acknowledgments**


4. P. A. Bradford was an employee of and shareholder in AZ at the time of this study. The remaining authors are currently employees of IHMA, Inc., Schaumburg, IL 60173 USA.

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