ABSTRACT

Background: AAI101, a novel extended-spectrum β-lactamase inhibitor, has shown promising clinical activity in combination with cephalosporins both in vitro and in vivo. This study evaluated the antipseudomonal activity and CLSI category of AAI101 against ESBL and/or AmpC-producing isolates in comparison with cephalosporins.

MATERIALS & METHODS

Allecra Therapeutics is developing AAI101 (Figure 1), a novel extended-spectrum β-lactamase inhibitor belonging to the penicillin-sulfone subclass, in combination with the 4th-generation cephalosporin ceftazidime. The mechanism of action of AAI101 is the inhibition of bacterial β-lactamases, which is different from that of tazobactam (1). The combination cephalosporin/AAI101 has been granted Qualified Infectious Disease Product and Fast Track Designations by the FDA.

RESULTS

Table 1. MBC of AAI101 and tazobactam, combined with cephalosporins, and compared to ceftazidime/AAI101.

<table>
<thead>
<tr>
<th>Cephalosporin</th>
<th>MIC (mg/L)</th>
<th>AAI101</th>
<th>Tazobactam</th>
<th>Cephalosporin/AAI101</th>
<th>Tazobactam/AAI101</th>
</tr>
</thead>
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<tr>
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<td>32</td>
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</table>

CONCLUSIONS

AAI101 restores the activity of cephalosporins against clinical isolates of K. pneumoniae when combined with cephalosporins, including ESBL-producing clinical isolates of K. pneumoniae, and/or AmpC-positive isolates.

REFERENCES & ACKNOWLEDGMENT

