Introduction

- Resistance development is an existing clinical challenge due to the spread of extended-spectrum β-lactamases (ESBLs) among Enterobacteriaceae. AAI101 has created the need for new treatment options.

- AAI101 is a novel extended-spectrum β-lactamase inhibitor (ESBLi) that is active against a broad range of β-lactamases, including ESBLs, metallo-β-lactamases (MBLs), and carbapenemases. It is currently in Phase 2b clinical trials where it is being tested as an additive against carbapenem-resistant isolates. (Figure 1)

- The objectives of this in vitro study were to determine the susceptibility of Enterobacteriaceae isolates to Cefepime/AAI101 (fixed AAI101 concentration of 4 µg/mL) and to compare its activity to meropenem.

Materials and Methods

- A collection of 1,214 Enterobacteriaceae clinical isolates were tested for susceptibility to cefepime/AAI101, cefepime, meropenem, and piperacillin-tazobactam.

- Isolates were tested for susceptibility to cefepime/AAI101, cefepime, meropenem, and piperacillin-tazobactam.

- The MIC values were determined by CLSI guidelines (Tables 1 and 2).

- Organisms were identified to the species level using MALDI-TOF mass spectrometry.

Conclusions

- Cefepime/AAI101 is active against a broad range of Enterobacteriaceae isolates, including ESBL-producing Enterobacteriaceae, and is comparable to meropenem in terms of activity against carbapenem-resistant Enterobacteriaceae isolates.

- Cefepime/AAI101 is a promising new treatment option for patients with infections caused by resistant Enterobacteriaceae isolates.