Background: Doripenem (DOR) is a carbapenem approved in many countries for the treatment of nosocomial pneumonia (NP), ventilator-associated bacterial pneumonia (VABP), catheter-related bloodstream infection (CRBSI), intra-abdominal infection (IAI), and complicated urinary tract infections (UTI). We report the in vitro antimicrobial activity of DOR against Enterobacteriaceae pathogens isolated worldwide.

Methods: During 2003-2009, a total of 57,724 consecutive, non-duplicate isolates from a variety of infections were collected from the following regions (in countries): Asia Pacific (11,709), Europe (15,21486), Latin America (5; 7,942), and North America (2, 18,292). Susceptibility (S) testing was performed using CLSI methods (M100-S20-U).

Results: DOR demonstrated very high activity against 57,724 Enterobacteriaceae with ≥97% of isolates inhibited at DOR MIC ≤0.12 mg/L. DOR was very active against carbapenemases (CAZ)-resistant (CAZ-NS) Enterobacteriaceae spp., Enterobacter spp., Citrobacter spp., Klebsiella spp., and Enterobacteriaceae spp., overall doripenem activity was high with >95% of isolates inhibited at DOR MIC ≤0.12 mg/L.

Materials and Methods: Bacterial Strain Collection. During 2003-2009, a total of 57,724 consecutive, non-duplicate isolates from a variety of infections (including HABP, VABP, cIAI, and cUTI) were collected from 10 medical centers (5 in five geographic regions (Europe, North America, South America, Asia-Pacific, and Africa)).

Conclusion: Against this very large global population of geographically and temporally (including contemporary 2009) diverse collection of isolates, DOR exhibited excellent potency against almost all Enterobacteriaceae collected. This volume of data supports the use of DOR as empiric therapy for hospitalized patients, in whom carbapenem therapy would be warranted to treat serious, difficult-to-treat infections, such as NP, VABP, cIAI, and cUTI.

Table 2. Percent distribution of doripenem MIC values for 57,724 Enterobacteriaceae isolates, Group B (377 isolates), Group C (377 isolates), Group H (377 isolates), Group P (377 isolates), Group S (377 isolates), and Group W (377 isolates).

Table 5. Activity of doripenem and comparator agents (Spo) tested against Enterobacteriaceae and Enterobacteriaceae carbapenem-resistant Enterobacteriaceae isolates (2009-2010).

Table 5. Activity of doripenem and comparator agents (Spo) tested against Enterobacteriaceae and Enterobacteriaceae carbapenem-resistant Enterobacteriaceae isolates (2009-2010).