Delafloxacin activity tested against bacterial pathogens from 44 medical centres in Europe and Israel (2014)

RK FLAMM, DJ FARRELL, HS SADER, RN JONES
JMI Laboratories, North Liberty, IA, USA

**ABSTRACT**

**Background:** Delafloxacin is an investigational anionic fluoroquinolone antibiotic currently in phase III development in the United States and has been the treatment of choice for certain infections in Europe and Israel. The aim of the study was to determine the susceptibility profiles of delafloxacin when tested against contemporary clinical isolates collected from medical centers in Europe and Israel during 2014.

**Methods:** A total of 3,589 isolates were collected. MIC endpoints were determined by broth microdilution. A breakpoint of ≤0.5 mg/L was used to define susceptibility. Data were reviewed for accuracy and consistency. The breakpoints are current at the time of submission of this manuscript. The minimum number of isolates per site was 20 for each test organism.

**Results:** Delafloxacin was effective in vitro against 92% of the isolates tested. Delafloxacin was the most active agent tested against MSSA and MRSA (MIC90 of 0.06/1 mg/L), followed by tigecycline (MIC90 of 0.03/1 mg/L). Delafloxacin was ≥4× more potent by MIC compared to levofloxacin against S. pneumoniae (MIC90 of 0.06 mg/L for delafloxacin vs. >32 mg/L for levofloxacin). Delafloxacin was ≥4× more potent by MIC compared to levofloxacin against E. coli, C. difficile and S. aureus (MIC90 of 0.03 mg/L for delafloxacin vs. >32 mg/L for levofloxacin). Delafloxacin was ≥4× more potent by MIC compared to tigecycline against S. aureus (MIC90 of 0.06 mg/L for delafloxacin vs. 1 mg/L for tigecycline). Delafloxacin was ≥4× more potent by MIC compared to Ciprofloxacin against C. difficile, S. pneumoniae, and E. coli (MIC90 of 0.03 mg/L for delafloxacin vs. >32 mg/L for Ciprofloxacin).

**Conclusions:** Delafloxacin was ≥4× more potent by MIC compared to tigecycline and ≥4× more potent by MIC compared to Ciprofloxacin against the majority of bacterial isolates tested.