

**Abstract**

**Background:** Delafloxacin is a broad-spectrum fluoroquinolone (FQ) antibiotic that was approved in 2017 by the Food and Drug Administration for the treatment of community-acquired bacterial pneumonia (CABP) in the United States. In vitro susceptibility testing is critical for clinical development for community-acquired bacterial pneumonia (CABP).

**Objectives:** The aim of the study was to determine the in vitro susceptibility of multidrug-resistant (MDR) Streptococcus pneumoniae isolates and non-susceptible (NS) isolates with respect to delafloxacin and other comparator agents.

**Methods:** A total of 3,629 S. pneumoniae isolates were collected during 2014–2017 from US and European hospitals participating in the SENTRY Surveillance Program.

**Results:** Delafloxacin demonstrated extremely potent in vitro activity against S. pneumoniae isolates, including MDR and levofloxacin-NS isolates. The MIC50/90 values were 0.03/0.03 mg/L for delafloxacin.

**Conclusions:** Delafloxacin was the most potent fluoroquinolone tested and had excellent activity against MDR S. pneumoniae isolates.

**Materials and Methods**

- A total of 3,629 S. pneumoniae isolates were collected during 2014–2017 from US and European hospitals.
- Only 1 isolate/patient/episode was included.
- Isolate identifications were confirmed at JMI Laboratories.
- Susceptibility (S) results for delafloxacin and comparator agents were interpreted per CLSI (2017) breakpoints where applicable.
- Testing was performed according to CLSI broth microdilution methodology, and MIC distributions of US and European isolates for the 3 fluoroquinolones tested were determined.
- Multidrug-resistant (MDR) isolates were categorized using CLSI criteria as being nonsusceptible (NS) to amoxicillin-clavulanate, erythromycin, and tetracycline; susceptible (S); intermediate (I); resistant (R).

**References**


**Contact Information:**

Melinta Therapeutics, New Haven, CT, sponsored this study.

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