**ABSTRACT**

**Background:** Omadacycline is a broad-spectrum antimicrobial with activity against Gram-positive and Gram-negative bacteria, including vancomycin-resistant isolates. This study was performed to evaluate the in vitro activity of omadacycline against bacteriologically confirmed infections collected during 2010-2011 from the European region of a global surveillance study.

**MATERIALS AND METHODS:** More than 120,000 Gram-positive and -negative isolates were collected from 45 medical and 16 nonmedical sources and tested for in vitro activity against 17 antimicrobials. The European Surveillance of Antimicrobial Consumption (ESAC) provided the isolates.

**RESULTS:** Omadacycline (MIC <0.12/0.25 mg/L) was active against >99% of isolates tested, with MIC values ranging from 0.006/0.006 to >8/≥8 mg/L. Resistance was observed in 0.4% of isolates (≤0.03/≤0.03 mg/L for amoxicillin). The highest MIC values were observed for aztreonam (38.2/76.5 mg/L), amoxicillin (100/100), and doxycycline (50.9/50.9 mg/L). Omadacycline was active against ≥90% of isolates for tigecycline (50.9/50.9 mg/L), levofloxacin (≤0.03/≤0.03 mg/L), and linezolid (0.1/0.1 mg/L). The combination of tigecycline and omadacycline (1/1 mg/L) demonstrated synergistic activity against E. coli, K. pneumoniae, and P. mirabilis.

**CONCLUSIONS:** Omadacycline demonstrated broad-spectrum activity against Gram-negative and -positive bacteria, including vancomycin-resistant isolates. The combination of tigecycline and omadacycline showed synergy in vitro.

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