A Multi-Site Study Comparing an 18-24h Sensititre® Susceptibility System to the CLSI Broth Microdilution Method for Telavancin Using Fastidious and Non-Fastidious Gram-Positive Organisms

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Abstract

In the present multi-site study, the Sensititre® telavancin MIC plate (Sensititre®, ThermoFisher Scientific, Waltham, MA) was compared to the CLSI broth microdilution method (M100-S19) for determining telavancin MICs against fastidious and non-fastidious Gram-positive bacteria. Each isolate was tested using a Sensititre® plate and a CLSI broth microdilution plate, and the results were compared to determine the overall agreement between the two methods. The study included 75 Gram-positive and 75 fastidious challenge isolates from the Center for Disease Control and Prevention (CDC) that were supplied to a single testing site (Tables 1 and 2). The reproducibility of the Sensititre® system was performed by testing 20 replicates of each ATCC strain included in the quality control (QC) set, and the reproducibility was assured by testing 20 replicates of each ATCC strain included in the QC set. The study was performed per the CLSI M07 guidelines.

Materials & Methods

Details of the multi-site study are provided in the CLSI M100-S19 document. The study included 75 Gram-positive and 75 fastidious challenge isolates from the CDC. Each isolate was tested using a Sensititre® plate and a CLSI broth microdilution plate, and the results were compared to determine the overall agreement between the two methods.

Results

The results of the multi-site study are provided in Tables 1 to 8. The overall agreement for telavancin on the Sensititre® plate compared to the CLSI reference broth microdilution plate was calculated for Gram-positive (99.0%) and fastidious (99.5%) isolates using either the automated or manual read methods compared to the reference CLSI broth microdilution method (M100-S19). The study also included reproducibility testing of the Sensititre® system.

Conclusions

This study validates that the Sensititre® 18–24h susceptibility system (both automated and manual read) demonstrated an equivalent level of performance compared to the CLSI M77 reference broth microdilution plate when testing telavancin against Gram-positive and fastidious Gram-positive bacteria. The study also demonstrates the level of essential agreement obtained by the Sensititre® 18–24h susceptibility system and the CLSI reference method supports this as an acceptable method for susceptibility testing of telavancin.

References


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