2nd November 2018

TECHNICAL BULLETIN

Re: Thermo Scientific™ Sensititre™ dried plates with 50μl fill volume

We at Thermo Fisher Scientific are devoted to supporting patient care and safety. Antimicrobial resistance (AMR) is a growing concern where new resistance mechanisms are being detected at an increasing pace due to the rapid evolution of microbes.

Based on a recent customer notification, it was discovered that the meropenem/ E. coli MIC value on the Sensititre dried plate with 50μl fill volume was lower than expected when compared to the reference broth microdilution method. The E. coli isolates that were tested contained VIM- and IMP-type metallo-β-lactamase genes (one resistance gene per isolate). The issue was noted when a standard inoculum (10μl transfer from 0.5 McFarland suspension to Sensititre Mueller-Hinton broth) was used on a Sensititre dried plate with 50μl fill volume.

An internal investigation was performed and the findings support the use of a higher inoculum method (30μl transfer from 0.5 McFarland suspension to Sensititre Mueller-Hinton broth) on a Sensititre dried plate with 50μl fill volume when testing resistant E. coli isolates against meropenem. Moreover, the Sensititre dried plate with 50μl fill volume achieved equivalent performance to the reference broth microdilution method when the higher inoculum method was used on resistant E. coli isolates against meropenem.

The use of a higher inoculum transfer is stated in the Sensititre non-fastidious technical insert and is within product validation: Depending on the strains tested, an increase to 30 μl may aid in detecting resistance mechanisms. For both Gram positive and Gram negative isolates, the transfer of 30μl of the suspension into an 11ml Sensititre Mueller-Hinton broth tube results in colony counts which fall within the cleared Sensititre range of 5.0 x 10^4 and 5.0 x 10^6 cfu/ml.

Users of Sensititre dried plates with 50μl fill volume are encouraged to consider the use of the higher inoculum method when antimicrobial resistance is a concern.

Yours Sincerely,

Sally Maysent
Senior Global Brand Manager, AST
Thermo Fisher Scientific
Microbiology