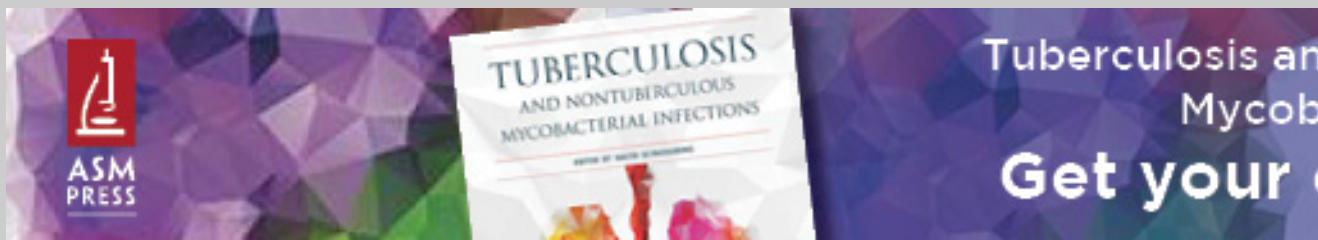


Detection and differentiation of in vitro-spiked bacteria by real-time PCR and melting-curve analysis.

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Detection and Differentiation of In Vitro-Spiked Bacteria by Real-Time PCR and Melting-Curve Analysis ➔

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ABSTRACT

We introduce a consensus real-time PCR protocol for the detection of bacterial DNA from laboratory-prepared specimens such as water, urine, and plasma. This prototype detection system enables an exact Gram stain classification and, in particular, screening for specific species of 17 intensive care unit-relevant bacteria by means of fluorescence hybridization probes and melting-curve analysis in a one-run experiment. One strain of every species was tested at a final density of 10^6 CFU/ml. All bacteria examined except *Staphylococcus aureus* and *Staphylococcus epidermidis* could be differentiated successfully; *S. aureus* and *S. epidermidis* could only be classified as “*Staphylococcus* species.” The hands-on time for preparation of the DNA, performance of the PCR, and evaluation of the PCR results was less than 4 h. Nevertheless, this prototype detection system requires more clinical validation.

FOOTNOTES

This Article

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