

The Identification of Mycobacteria from Solid Media and Directly from VersaTREK Myco Bottles Using the MIDI HPLC System

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Objective:

To minimize the time required to identify mycobacteria, the Sherlock MIDI HPLC system was used to identify mycobacterial isolates growing on solid media and directly from positive VersaTREK Myco bottles.

Methods:

The mycolic acids from mycobacterial isolates growing on 7H11 agar plates and from positive VersaTREK myco bottles were extracted, derivatised and subjected to analysis by HPLC. The resulting chromatograms were analysed using the MIDI database library to obtain a species identification. The resulting identifications were compared to those obtained by using nucleic acid probes and conventional biochemicals. Many of the isolates used in the investigation were previously vetted as to species identification.

Results:

Sixty-seven per cent of isolates tested from solid media were identified correctly to species. Twenty of 25 *Mycobacterium avium* complex isolates were identified correctly whereas none of the *M. scrofulaceum* isolates were identified to species owing to the absence of this organism from the database. Only 42.1% of the isolates obtained directly from positive VersaTREK Myco bottles were identified correctly to species. A re-engineering of the database and a creation of a new library resulted in 90.1% of the isolates obtained from solid media and 82.9% of the isolates obtained from VersaTREK Myco bottles being identified correctly. All 11 isolates of *M. tuberculosis* were identified correctly when tested directly from positive VersaTREK bottles using either library.

Conclusions:

The use of the revised HPLC library with growth obtained directly from positive VersaTREK Myco bottles allows for the identification of the majority of isolates within clinically relevant time frames.