Overview

Useful For
Diagnosing mycobacteremia

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISMY</td>
<td>ID by 16S Sequencing</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
<tr>
<td>RMALM</td>
<td>Id MALDI-TOF Mass Spec AFB</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
<tr>
<td>RTBSP</td>
<td>Id, Mtb Speciation, PCR</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
<tr>
<td>TBMP</td>
<td>Mycobacteria Probe Ident</td>
<td>No, (Bill Only)</td>
<td>No</td>
</tr>
<tr>
<td>TBPB</td>
<td>Mycobacteria Probe Ident Broth</td>
<td>No, (Bill Only)</td>
<td>No</td>
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</tbody>
</table>

Testing Algorithm
When this test is ordered, the reflex tests may be performed and charged.

Method Name
Continuously Monitored Automated Broth Culture Instrument with Conventional Methods for Identification of Mycobacteria

NY State Available
Yes

Specimen

Specimen Type
Whole blood

Shipping Instructions
Specimen must be processed within 72 hours of draw.

Necessary Information
Specimen source is required.

Specimen Required
Container/Tube:

Preferred: Green top (sodium or lithium heparin)

Acceptable: SPS/Isolator System

Specimen Volume: 8-10 mL per culture
Collection Instructions:

1. Send specimen in original tube.

2. Please note when sending SPS tube, it must be clearly labeled SPS. If label is obscured, sample may be cancelled, as ACD (yellow top) is not an acceptable tube type.

Forms

If not ordering electronically, complete, print, and send a Microbiology Test Request (T244) with the specimen.

Specimen Minimum Volume

5 mL

Reject Due To

No specimen should be rejected.

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood</td>
<td>Ambient (preferred)</td>
<td>72 hours</td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>72 hours</td>
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</table>

Clinical and Interpretive

Clinical Information

Mycobacteremia occurs most often in immunocompromised hosts. The majority of disseminated mycobacterial infections are due to *Mycobacterium avium* complex but bacteremia can also be caused by other mycobacterial species including, but not limited to, *Mycobacterium tuberculosis* complex, *Mycobacterium kansasii*, *Mycobacterium fortuitum*, *Mycobacterium chelonae*, *Mycobacterium scrofulaceum*, *Mycobacterium szulgai*, and *Mycobacterium xenopi*. (1)

Mycobacterial blood cultures may be indicated for patients presenting with signs and symptoms of sepsis, especially fever of unknown origin.

Reference Values

Negative

If positive, mycobacteria is identified.

A final negative report will be issued after 42 days of incubation.

Interpretation

A positive result may support the diagnosis of mycobacteremia.

Cautions

Results must be interpreted in conjunction with the patient's history and clinical picture.

A negative result does not rule out mycobacteremia. The organism may be present at quantities below the limit of
Test Definition: CTBBL
Mycobacterial Culture, B

detection or may be transiently present.

If *Mycobacterium genavense* is suspected, indicate on request form or contact laboratory. Mycobactin J (an iron supplement) will then be added to the culture to support growth.

**Supportive Data**

During validation of this test, a variety of mycobacteria were recovered from spiked blood specimens. These mycobacteria were *Mycobacterium fortuitum*, *Mycobacterium intracellulare*, *Mycobacterium kansasii*, *Mycobacterium tuberculosis*, and *Mycobacterium xenopi*. *Mycobacterium genavense* was recovered when the medium was supplemented with mycobactin J (an iron supplement). In addition, aerobic actinomycetes including *Nocardia farcinica*, *Gordonia terrae*, *Rhodococcus equi*, and *Tsukamurella paurometabola* were also recovered when spiked into blood. The limit of detection was determined to be \(< 10^2\) colony forming units (CFU)/mL for *Mycobacterium fortuitum* and *Mycobacterium tuberculosis*, 10 CFU/mL for *Mycobacterium intracellulare*, and 1 CFU/mL for *Nocardia farcinica*.

**Clinical Reference**


**Performance**

**Method Description**

The blood is processed per the manufacturer's instructions before adding it to a VersaTREK Myco bottle and plating onto Middlebrook 7H10 agar. The agar plate is incubated at 37 degrees C with 5% to 7% carbon dioxide (CO2) for 42 days. The VersaTREK Myco bottle is incubated on the automated VersaTREK 528 instrument for 42 days. If the bottle signals as positive on the instrument, it is removed and a smear is performed to look for acid-fast organisms. Acid-fast organisms are identified using conventional methods including nucleic acid hybridization probes, MALDI-TOF mass spectrometry, 16S rDNA gene sequencing. (Mirrett S, Hanson KE, Reller LB: Controlled clinical comparison of VersaTREK and Bact/ALERT blood culture systems. J Clin Microbiol 2007;45:299-302; Buckwalter SP, Olson SL, Connelly BJ, et al: Evaluation of MALDI-TOF Mass Spectrometry for the Identification of Mycobacterium species, Nocardia species and Other Aerobic Actinomycetes. J Clin Microbiol 2016; Feb;54(2):376-384. doi: 10.1128/JCM.02128-15; Hall L, Doerr KA, Wohlfiel SL, Roberts GD: Evaluation of the MicroSeq system for identification of mycobacteria by 16S ribosomal DNA sequencing and its integration into a routine clinical mycobacteriology laboratory. J Clin Microbiol 2003;41:1447-1453)

**PDF Report**

No

**Day(s) and Time(s) Test Performed**

Monday through Sunday; Continuously

**Analytic Time**

42 days/Positive cultures reported as soon as detected, Negative 42 days

**Specimen Retention Time**

24 days

**Performing Laboratory Location**
Fees and Codes

Fees
- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their Regional Manager. For assistance, contact Customer Service.

Test Classification
This test has been cleared, approved or is exempt by the U.S. Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information
87116-Mycobacterial Culture
87118-Id MALDI-TOF Mass Spec AFB (if appropriate)
87150-Id, Mtb Speciation, PCR (if appropriate)
87150-Mycobacteria Probe Ident, Broth(if appropriate)
87150-Mycobacteria Probe Ident, Solid(if appropriate)
87153-Mtb PZA Confirmation, pcnA sequence (if appropriate)
87153-Mycobacteria Identification by Sequencing (if appropriate)

LOINC® Information

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<tr>
<th>Test ID</th>
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<th>Order LOINC Value</th>
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<tr>
<td>CTBBL</td>
<td>Mycobacterial Culture, B</td>
<td>64412-0</td>
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