

Overview**Useful For**

Diagnosing mycobacteremia

Reflex Tests

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

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

Specimen Type	Temperature	Time
Whole blood	Ambient (preferred)	72 hours
	Refrigerated	72 hours

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

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 < or =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

1. Pfyffer GE: *Mycobacterium*: General characteristics, laboratory detection, and staining procedures. In Manual of Clinical Microbiology. Eleventh edition. Edited by JH Jorgensen, MA Pfaller, KC Carroll, et al. ASM Press, Washington DC, 2015, pp 536-569
2. Reimer LG: Laboratory detection of mycobacteremia. Clin Lab Med 1994;14:99-105

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

Rochester

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 or approved 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

Test ID	Test Order Name	Order LOINC Value
CTBBL	Mycobacterial Culture, B	64412-0

Result ID	Test Result Name	Result LOINC Value
CTBBL	Mycobacterial Culture, B	64412-0