MAYO CLINIC LABORATORIES

Test Definition: FBL

Fungal Culture, Blood

Overview

Useful For

Diagnosis and treatment of the etiologic agents of fungemia

Reflex Tests

Test Id	Reporting Name	Available Separately	Always Performed
D2F	D2 Fungal Sequencing Identification	No, (Bill Only)	No
FUNA	Fungal Ident Panel A	No, (Bill Only)	No
FUNB	Fungal Ident Panel B	No, (Bill Only)	No
RMALF	Id MALDI-TOF Mass Spec Fungi	No, (Bill Only)	No
RMALY	Id MALDI-TOF Mass Spec Yeast	No, (Bill Only)	No
ITSF	ITS Fungal Sequencing	No, (Bill Only)	No

Testing Algorithm

When this test is ordered, reflex testing may be performed at an additional charge.

Method Name

Conventional Broth Culture/Macroscopic/Microscopic/D2 and Internal Transcribed Spacer (ITS) rDNA Gene Sequencing/Matrix-Assisted Laser Desorption/Ionization-Time of Flight Mass Spectrometry (MALDI-TOF MS)

Dimorphic Pathogen Identification Confirmation: D2 and ITS rDNA Gene Sequencing/MALDI-TOF MS

NY State Available

Yes

Specimen

Specimen Type

Whole blood

Specimen Required

Container/Tube:

Preferred: Green top (sodium or lithium heparin)

Acceptable: SPS (sodium polyanethol sulfonate)

Specimen Volume: 5 mL

Pediatric Volume: 3 mL

Collection Instructions:
1. Send whole blood specimen in original tube. **Do not aliquot**.
2. SPS tubes are acceptable but not preferred.
Note: SPS tubes must be clearly labeled as 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
Adults: 1 mL; Pediatrics: 1 mL

Reject Due To

Blood culture bottles (eg, BACTEC MycoF Lytic)	Reject
Isolator	Reject
Clotted	Reject

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Whole blood	Ambient (preferred)	7 days	
	Refrigerated	7 days	

Clinical & Interpretive

Clinical Information
Due to the high mortality rate from fungemia, the expeditious detection and identification of fungi from the patient's blood can have great diagnostic prognostic importance. Risk factors for fungemia include, but not limited to, extremes of age, immunosuppression, and those individuals with burns or indwelling intravascular devices.

Reference Values
Negative
If positive, notification is made as soon as the positive culture is detected or identified.

Interpretation
Positive cultures of yeast and filamentous fungi are reported with the organism identification.

Positive cultures are usually an indication of infection and are reported as soon as detected. Correlation of culture results and the clinical situation is required for optimal patient management. A final negative report is issued after 42 days of incubation.

Cautions
No significant cautionary statements

Clinical Reference
1. Procop GW, Church DL, Hall GS, et al. Mycology. In: Koneman's Color Atlas and Textbook of Diagnostic Microbiology. 7th ed. Walters Kluwer; 2017:1322-1416
2. Zheng S, Ng TY, Li H, Tan AL, Tan TT, Tan BH. A dedicated fungal culture medium is useful in the diagnosis of fungemia: a retrospective cross-sectional study. PLoS One. 2016;11(10):e0164668. doi:10.1371/journal.pone.0164668
3. Magallon A, Basmaciyan L, Chapuis A, et al. Evaluation of the relevance of use of the BD-BACTEC MycosisIC/F, BD-BACTEC PlusAerobic/F, BD-BACTEC Lytic/10 anaerobic/F and BD-BACTEC PedsPlus/F culture bottle system for fungemia detection: A 4-year retrospective study at the Dijon university hospital, France. J Mycol Med. 2022;32(4):101295. doi:10.1016/j.mycmed.2022.101295

Performance

Method Description
Blood is inoculated into a MycoF Lytic culture bottle (Becton Dickinson) bottle and continuously monitored on a blood culture instrument.

Identification of fungi is based on colonial and microscopic morphology, matrix-assisted laser desorption ionization time-of-flight mass spectrometry and/or D2 and internal transcribed spacer (ITS) rDNA gene sequencing, as applicable.(B; Dhiman N, Hall L, Wohlfiel SL, Buckwalter SP, Wengenack NL. Performance and cost analysis of matrix-assisted laser desorption ionization time of flight mass spectrometry for routine identification of yeast. J Clin Microbiol. 2011:49[4];1614-1616; Hall L, Wohlfiel SL, Roberts GD. Experience with the MicroSeq D2 large-subunit ribosomal DNA sequencing kit for identification of filamentous fungi encountered in the clinical laboratory. J Clin Microbiol. 2004;42[2]:622-626; Theel ES, Schmidt BH, Hall L, et al. Formic acid-based direct, on-plate testing of yeast and *Corynebacterium* species by Bruker Biotyper matrix-assisted laser desorption ionization-time of flight mass spectrometry. J Clin Microbiol. 2012;50[9]:3093-3095; Theel ES, Hall L, Mandrekar J, Wengenack NL. Dermatophyte identification using matrix-assisted laser desorption ionization-time of flight mass spectrometry. J Clin Microbiol. 2011;49[12]:4067-4071; General approaches for direct and indirect detection and identification of fungi. In: Carroll KC, Pfaller MA, Pritt BS, et al. Manual of Clinical Microbiology. 13th ed. ASM Press; 2023)

PDF Report
No

Day(s) Performed
Monday through Sunday

Report Available
42 to 45 days

Specimen Retention Time
7 days

Performing Laboratory Location

Mayo Clinic Laboratories - Rochester Main Campus

Fees & 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 account representative. For assistance, contact Customer Service.

Test Classification

This test has been cleared, approved, or is exempt by the US 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

87103-Blood
87106-Id MALDI-TOF Mass Spec Yeast (if appropriate)
87107-Id MALDI-TOF Mass Spec Fungi (if appropriate)
87107-Fungal identification panel A (if appropriate)
87107-Fungal identification panel B (if appropriate)
87153-D2 fungal sequencing identification (if appropriate)
87153- ITS Fungal Sequencing (if appropriate)

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
FBL	Fungal Culture, Blood	601-5

Result ID	Test Result Name	Result LOINC® Value
FBL	Fungal Culture, Blood	In Process