Overview

Useful For

Diagnosing fungal infections from specimens other than blood, skin, hair, nails, and vagina (separate tests are available for these specimen sites)

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
LCCI	Ident Rapid PCR Coccidioides	No, (Bill Only)	No
LCHB	Id, Histoplasma/Blastomyces PCR	No, (Bill Only)	No
RMALF	Id MALDI-TOF Mass Spec Fungi	No, (Bill Only)	No
TISSR	Tissue Processing	No, (Bill Only)	No
RMALY	Id MALDI-TOF Mass Spec Yeast	No, (Bill Only)	No
LCCA	Id, Candida auris Rapid PCR	No, (Bill Only)	No

Testing Algorithm

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

See Meningitis/Encephalitis Panel Algorithm in Special Instructions.

Special Instructions

- Meningitis/Encephalitis Panel Algorithm

Method Name

Conventional agar culture technique with identification by macroscopic and microscopic morphology, D2 rDNA gene sequencing, real-time polymerase chain reaction (rtPCR), or MALDI-TOF mass spectrometry. Dimorphic pathogen identification is confirmed using molecular methods (ie, D2 rDNA gene sequencing, rtPCR or MALDI-TOF mass spectrometry).

NY State Available

Yes

Specimen

Specimen Type

Varies

Ordering Guidance

Nocardia and the other aerobic actinomycetes are not fungi and a fungal culture should not be ordered. These organisms grow well on mycobacterial medium and, therefore, when infection with this group of organisms is suspected, order CTB / Mycobacteria and *Nocardia* Culture.

Shipping Instructions

Specimen should arrive within 24 hours of collection.

Necessary Information

Specimen source is required.

Specimen Required

Specimen Type: Body fluid

Container/Tube: Sterile container

Specimen Volume: Entire collection

Specimen Type: Bone marrow

Container/Tube: Sterile container

Specimen Volume: Entire collection

Specimen Type: Fresh tissue

Container/Tube: Sterile container

Specimen Volume: Pea sized

Collection Instructions: Tissue should be placed in small amount of sterile saline or sterile water.

Specimen Type: Respiratory specimen

Container/Tube: Sterile container

Specimen Volume: Entire collection

Specimen Type: Swab

Fresh tissue or body fluid is the preferred specimen type instead of a swab specimen.

Sources: Dermal, ear, mouth, ocular, throat, or wound

Container/Tube: Culture transport swab (noncharcoal) Culturette

Specimen Volume: Swab

Collection Instructions:

1. Before collecting specimen, wipe away any excessive amount of secretion and discharge, if appropriate.

2. Obtain secretions or fluid from source with sterile swab.

3. If smear and culture are requested or both a bacterial culture and fungal culture are requested, collect a second swab to maximize test sensitivity.

Specimen Type: Urine

Container/Tube: Sterile container

Specimen Volume: 2 mL

Collection Instructions: Collect a random urine specimen.

Forms

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

Specimen Minimum Volume

Bone Marrow or Body Fluid: 1 mL
Respiratory Specimen: 1.5 mL
Tissue: pea-sized piece

Reject Due To

Other	Blood or fixed tissue; specimen in viral transport (including but not limited to M4, M5, BD viral transport media, thioglycolate broth), nasal swab, wood shaft or charcoal swab, catheter tips, petri dish, stool

Specimen Stability Information

Specimen Type	Temperature	Time
Varies	Refrigerated (preferred)	7 days
	Ambient	7 days

Clinical and Interpretive

Clinical Information

Many fungi in the environment cause disease in immunocompromised human hosts. Accordingly, the range of potential pathogenic fungi has increased as the number of immunosuppressed individuals (eg, persons with AIDS, patients receiving chemotherapy or transplant rejection therapy) has increased. Isolation and identification of the infecting fungus in the clinical laboratory can help guide patient care.

Reference Values

Negative

If positive, fungus will be identified.

Interpretation

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

The clinician must determine whether or not the presence of an organism is significant. A final negative report is issued after 24 days of incubation.

Cautions

For optimal recovery of organisms, sufficient specimen should be transported within 24 hours of collection.

Fungi can be pathogens, colonizers, or contaminants. Correlation of the patient clinical condition with culture results is necessary.

Clinical Reference

Shea YR: General approaches for detection and identification of fungi. In Manual of Clinical Microbiology. 10th edition. Edited by J Versalovic, KC Carroll, et al. Washington, DC, ASM Press, 2011, pp 1776-1792

Performance

Method Description

Specimens are cultured on selective fungal media (eg,inhibitory mold agar and brain heart infusion blood agar with chloramphenicol and gentamicin). Respiratory sources also are cultured on brain heart infusion agar with chloramphenicol, gentamicin, and cycloheximide. Cultures are incubated for 24 days at 30 degrees C.

Identification of fungi is based on colonial and microscopic morphology, matrix-assisted laser desorption ionization-time of flight (MALDI-TOF) mass spectrometry (MS), laboratory-developed real-time PCR assays and/or D2 ribosomal RNA (rRNA) gene sequencing, as applicable.(Babady NE, Buckwalter SP, Hall L: Detection of *Blastomyces dermatitidis* and *Histoplasma capsulatum* from culture isolates and clinical specimens by use of real-time PCR. J Clin Microbiol 2011;49:3204-3208; Binnicker MJ, Buckwalter SP, Eisberner JJ: Detection of *Coccidioides* species in clinical specimens by real-time PCR. J Clin Microbiol 2007;45:173-178; Dhiman N, Hall L, Wohlfiel SL: Performance and cost analysis of matrix-assisted laser desorption ionization time of flight mass spectrometry for routine identification of yeast. J Clin Microbiol 2011;49:1614-1616; 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;42:622-626; Theel ES, Schmidt BH, Hall L: 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;50:3093-3095; Theel ES, Hall L Mandrekar J: Dermatophyte identification using matrix-assisted laser desorption ionization-time of flight mass spectrometry. J Clin Microbiol 2011;49:4067-4071)

PDF Report

No

Day(s) Performed

Monday through Sunday

Report Available

24 to 35 days/Positive cultures reported when detected. Preliminary negative report generated at 7 and 14 days.

Specimen Retention Time

Raw specimen saved 7 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, 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

87102-Fungal culture, routine

87106-Yeast identification panel D (if appropriate)

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)

87107-Yeast identification panel A (if appropriate)

87107-Yeast identification panel B (if appropriate)

87150 x 2-Identification *Histoplasma*/*Blastomyces*, PCR (if appropriate)

87153-D2 fungal sequencing identification (if appropriate)

87176-Tissue processing (if appropriate)

LOINC® Information

Test ID	Test Order Name	Order LOINC Value
FGEN	Fungal Culture, Routine	580-1

Result ID	Test Result Name	Result LOINC Value
FGEN	Fungal Culture, Routine	580-1