Lab Dept: Microbiology

Test Name: FUNGAL 28S DNA DETECTION BY PCR WITH REFLEX

General Information

Lab Order Codes:	FNGPCR
Synonyms:	28S; Broad Range 28S PCR reflex to NGS; Fungal DNA PCR and Next- Generation Sequencing
CPT Codes:	87801 plus reflex, if applicable
Test Includes:	Use of broad-range PCR primers that can amplify various fragments of the 28S rRNA gene from pathogenic and nonpathogenic fungi. This test will reflex to <u>Fungal DNA Detection by ITS Next Gen Seq [NGSITS]</u> when there is evidence of multiple fungal templates present.
Logistics	
Test indications:	This is best used when signs of infection are seen in the specimen, but other laboratory methods have failed to yield a diagnosis. Therefore, pathologic examination is recommended before ordering. Due to the expected presence of normal flora and assay limitations, not all specimens are acceptable. See <u>Specimen Type</u> .
Lab Testing Sections:	Microbiology - Sendouts
Referred to:	University of Washington Molecular Microbiology Lab (UWASH Test Code: FUNDNA)
Phone Numbers:	MIN Lab: 612-813-6280
	STP Lab: 651-220-6550
Test Availability:	Daily, 24 hours
Turnaround Time:	3-8 days (Test performed Monday-Friday)
Special Instructions:	CAUTION: This is a high-cost test. It is best used when signs of infection are seen in the specimen, but other laboratory methods have failed to yield a diagnosis. Pathology examination is recommended before ordering.

Specimen

Specimen Type:	 Bone marrow aspirate CSF Body fluid: Common examples include pleural fluid, pericardial fluid, bronchial lavage, joint fluid, vitreous fluid, etc. eSwabs: UTM (universal transport media)** Fresh frozen tissue Formalin Fixed Paraffin-embedded tissues (FFPE, PET): blocks, scrolls, and unstained slides Blood/serum/plasma, stool swabs, or sputum are NOT acceptable. **Results from swabs may have interference due to some lots of eSwabs that have been found to contain <i>Saccharomyces cerevisiae</i> DNA, leading to false positive detection. Clinical correlation and/or retesting with a different collection method is advised. The detection of <i>S. cerevisiae</i> from eSwab specimens can interfere with the ability to rule out other fungal DNA.
Container:	Sterile, securely sealed container
Collection Volume:	If 16S and 28S are both ordered, one specimen is sufficient for both orders.
	Bone Marrow Aspirate : 0.2-1.0 mL collected in dry syringe and IMMEDIATELY transferred to EDTA container (No Heparin).
	CSF : 0.2-1.0 mL
	Fresh frozen tissue: 0.3-1.0 cm ³
	Fluid: 0.2-1.0 mL
	eSwab: One swab
	Formalin Fixed Paraffin-embedded Tissue (FFPE/PET): Blocks are preferred and will be sent back to client upon completion of testing
	Scrolls/unstained slides : cross-sectional area >1cm ² send 10 sections of 10 μ m thickness, if <1cm ² send 20 sections if available.
	NOTE: Specimen volumes below the optimal quantity will be accepted for testing, however, diagnostic yield is generally proportional to specimen volume.
Processed Volume:	See Collection Volume
Collection:	Standard sterile technique

Special Processing:	Lab Staff: Use sterile technique if aliquoting is required.
	Store all specimens (except FFPE/scrolls/slides) refrigerated up to 8 hours, freeze specimens stored longer.
	See additional information on the reference lab website. Additional links can be found at: <u>https://testguide.labmed.uw.edu/view/FUNDNA</u>
	SENDOUTS:
	 FROZEN (dry ice) ship: bone marrow, CSF, fluid, and UTM AMBIENT ship FFPE tissue and slides (include an ice pack during warmer summer months to prevent melting).
	Specimens that are requested frozen are stable at refrigerated temperatures for up to a week. If the specimen had been stored refrigerated for longer, please add a note to the Test Request Form stating this. The reference lab will test but may add a temperature disclaimer to the result report.
	If sending blocks, add our return address to the Test Request Form. UWash will send back blocks if specimen remains.

Patient Preparation:	N/A
Sample Rejection:	Blood; stool/rectal swabs; tissues floating in formalin; heparinized or citrated specimens; swabs/fluid collected in a tube containing agar
Interpretive	
Reference Range:	See interpretive report
Critical Values:	As defined by the reference lab
Limitations:	Fungal PCR reflex NGS may have interference due to some lots of eSwabs which have been found to contain <i>Saccharomyces cerevisiae</i> DNA, resulting in false positive detection. Clinical correlation and/or retesting with a different collection method is advised. The detection of <i>S. cerevisiae</i> from eSwab specimens can interfere with the ability to rule out other fungal DNA.
Methodology:	DNA extraction, nucleic acid purification, polymerase chain reaction (PCR), sequencing
References:	University of Washington Medicine Lab Test Guide (April 2025)
Updates:	04/29/2025: Initial entry