MAYO CLINIC LABORATORIES

NEW TEST

Notification Date: October 1, 2024
Effective Date: October 1, 2024

Joint Infection Panel, PCR, Synovial Fluid

Test ID: JIP

Highlights:

The BIOFIRE Joint Infection (JI) Panel is a multiplexed nucleic-acid-based, *in vitro* diagnostic test for the simultaneous qualitative detection and identification of 31 bacterial and yeast nucleic acids and 8 antimicrobial resistance genes from synovial fluid obtained from individuals suspected to have a joint infection.

This test is used to diagnose infections caused by *Anaerococcus prevotii/vaginalis, Finegoldia magna, Streptococcus* species*, Clostridium perfringens, Parvimonas micra, Streptococcus agalactiae, Cutibacterium avidum/granulosum, Peptoniphilus, Streptococcus pneumoniae, Enterococcus faecalis, Peptostreptococcus anaerobius, Streptococcus pyogenes, Enterococcus faecium, Staphylococcus aureus, Staphylococcus lugdunensis, Bacteroides fragilis, Kingella kingae, Proteus, Citrobacter, Klebsiella aerogenes, Pseudomonas aeruginosa, Enterobacter cloacae* complex*, Klebsiella pneumoniae* complex*, Salmonella* species*, Escherichia coli, Morganella morganii, Serratia marcescens, Haemophilus influenzae, Neisseria gonorrhoeae, Candida* species*,* and *Candida albicans.*

The test can also detect the following antimicrobial resistance genes: $bla_{CTX\text{-}M}$, bla_{KPC}, bla_{NDM}, bla_{IMP}, $bla_{OXA\text{-}48\text{-}like}$, bla_{VIM}, *mecA/C* and MREJ region (MRSA), and *vanA/B*.

Methods:

Multiplex Polymerase Chain Reaction (PCR)

Reference Values:

Undetected

Specimen Requirements:

Specimen Type: Synovial fluid
Container/Tube: Sterile vial
Specimen Volume: 1 mL
Collection Instructions:
1. Do not process or treat specimen in any way.
2. Label specimen as synovial fluid.

Note:

This test is appropriate for raw, unprocessed, and untreated synovial fluid specimens only.

Specimen Stability Information:

Specimen Type	Temperature	Time
Synovial Fluid	Refrigerated (preferred)	7 days
	Ambient	4 hours

Cautions:

The detection of bacterial, yeast, and antimicrobial resistance gene nucleic acid is dependent upon proper specimen collection, handling, transportation, and storage. Failure to observe proper procedures in any one of these steps can lead to incorrect results. There is a risk of false positive or false negative results from improperly collected, transported, or handled specimens.

The BIOFIRE JI Panel is intended to be used in conjunction with clinical history, signs and symptoms, and results of other diagnostic tests, including Gram stain, culture and antimicrobial susceptibility testing.

The BIOFIRE JI Panel has not been validated for testing of specimens other than synovial fluid specimens.

The BIOFIRE JI Panel is not intended for use with synovial fluid in media. Media/broths may contain contaminating nucleic acids that can generate false positive results.

The performance of the BIOFIRE JI Panel has not been specifically evaluated for synovial fluid specimens collected from patients being treated with antibiotics.

Bacterial and yeast nucleic acids may persist *in vivo* independent of organism viability. Detection of organism nucleic acid does not imply that the corresponding organisms are infectious or are the causative agents for clinical symptoms.

The results for the antimicrobial resistance gene assays do not specifically link the resistance gene to the applicable bacteria detected. In polymicrobial specimens, the resistance gene may be associated with any of the applicable bacteria detected or an organism that was not detected by the panel.

Antimicrobial resistance can occur via multiple mechanisms. "Not Detected" results for the antimicrobial resistance gene assays do not indicate that the organism(s) is susceptible to the antimicrobials. Subculturing and standard antimicrobial susceptibility testing of isolates are required to determine antimicrobial susceptibility.

CPT Code:

87999

Day(s) Performed: Monday through Sunday **Report Available:** 1 to 2 days

Questions

Contact Brandon DeBoom, Laboratory Resource Coordinator at 800-533-1710.