Coxiella burnetii (Q fever), Molecular Detection, PCR

Useful For
- Diagnosing Coxiella burnetii infection (eg, Q fever)

Clinical Information
Coxiella burnetii, the causative agent of Q fever, is a small obligately intracellular bacterium, which is associated with animals. It is acquired through aerosol exposure and generally causes mild respiratory disease. A small number of acute cases advance to a chronic infection, which typically manifests as endocarditis. Left untreated, Q fever endocarditis may be fatal. Serologic and histopathologic studies may be nonspecific and subjective, respectively, limiting usefulness for patient diagnosis.

Evaluation of infected tissue, blood, or serum using PCR may be a useful tool for diagnosing some cases of Coxiella burnetii infection. Mayo Medical Laboratories has developed a real-time PCR test that rapidly detects Coxiella burnetii DNA in clinical specimens by targeting a sequence of the shikimate dehydrogenase gene (aroE) unique to Coxiella burnetii.

Interpretation
A positive test is diagnostic of Coxiella burnetii infection.

A negative test indicates the absence of detectable Coxiella burnetii DNA, but does not negate the presence of the organism or recent disease and may occur due to sequence variability underlying primers and/or probes, or the presence of Coxiella burnetii in quantities less than the limit of detection of the assay.

Cautions
Test results should be used as an aid in diagnosis and not be considered diagnostic in themselves. The single assay should not be used as the only criteria to form a clinical conclusion, but results should be correlated with patient symptoms and clinical presentation. A negative result does not negate the presence of the organism or active disease.

Reference Values
Not applicable

Analytic Time
2 day
Clinical References


For additional interpretation information and clinical references, please visit the following website:

http://www.mayomedicallaboratories.com/articles/features/pc-proliferation/index.html