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**Lab Dept:** Serology

**Test Name:** Q FEVER, IGG/IGM ANTIBODIES

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***General Information***

**Lab Order Codes:** QFEV

**Synonyms:** Q Fever Antibodies, Serum; *C. burnetii*; Coxiella Titer; Febrile Agglutinins for Q Fever; Typhus; Weil Felix for Q Fever

**CPT Codes:** 86638 x4 – Antibody; *Coxiella burnetii*

**Test Includes:** Q Fever IgG (phase I and phase II levels) and IgM (phase I and phase II levels) reported as titers.

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***Logistics***

**Test Indications:** Q Fever, a rickettsial infection caused by *Coxiella burnetii*, has been recognized as a widely distributed zoonosis that has the potential for causing both sporadic and epidemic disease.

The infection is spread by the inhalation of infected material, mainly from sheep and goats. They shed the organism in feces, milk, nasal discharges, placental tissues and amniotic fluid.

The resistance of *Coxiella burnetii* to heat, chemical agents, and desiccation allow the agent to survive for extended periods outside the host.

The clinical spectrum of disease ranges from inapparent to fatal. Respiratory manifestations usually predominate; endocarditis and hepatitis can be complications.

**Lab Testing Sections:** Serology - Sendouts

**Referred to:** Mayo Medical Laboratories (MML Test: QFP)

**Phone Numbers:** MIN Lab: 612-813-6280

STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 1 - 3 days, test set up Monday - Friday

**Special Instructions:** Specimens will be held for 2 weeks.

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***Specimen***

<b>Specimen Type:</b>	Blood
<b>Container:</b>	SST (Gold, marble or red) tube
<b>Draw Volume:</b>	1.5 mL (Minimum: 1.0 mL) blood
<b>Processed Volume:</b>	0.5 mL (Minimum: 0.25 mL) serum
<b>Collection:</b>	Routine venipuncture
<b>Special Processing:</b>	Lab Staff: Centrifuge specimen, remove serum aliquot into a screw-capped round bottom plastic vial. Store and ship at refrigerated temperatures. Forward promptly.
<b>Patient Preparation:</b>	None
<b>Sample Rejection:</b>	Specimens other than serum; gross hemolysis; gross lipemia; mislabeled or unlabeled specimens

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***Interpretive*****Reference Range:**

<b>Titer Interpretation:</b>	
IgG, Phase I	<1:16
IgG, Phase II	<1:16
IgM, Phase I	<1:16
IgM, Phase II	<1:16

Phase I antibody titers greater than or equal to phase II antibody titers are consistent with chronic infection or convalescent phase Q Fever.

Phase II antibody titers of greater than or equal to phase I antibody titers are consistent with acute/active infection.

A negative result argues against *Coxiella burnetii* infection. If early acute Q fever infection is suspected, obtain a second specimen 2-3 weeks later and retest.

In Q fever sera, it is most common to see IgG titers of 1:128 or greater to both phase I and phase II antibody titers. IgG class antibody titers appear very early in the disease, reaching maximum phase II titers by week 8 and persisting at elevated titers for longer than a year. Phase I titers follow the same pattern, although at much lower levels, and may not be initially detected until convalescence.

In Q fever sera, it is common to see IgM titers of 1:64 or greater.

IgM class antibody titers appear very early in the disease, reaching maximum phase II titers by week 3 and declining to very low levels by the 14<sup>th</sup> week. Phase I titers follow the same pattern, although at much lower levels, and may not be initially detected until convalescence.

**Critical Values:**

N/A

**Limitations:**

Serologic responses are time-dependent. Specimens obtained early in the disease may not have detectable antibody levels. A second specimen 2 – 4 weeks later may be necessary to detect antibody.

**Methodology:**

Indirect Immunofluorescence (IFA)

**References:**

[Mayo Medical Laboratories Web Page](#) December 2017

**Updates:**

10/26/2004: Mayo enhanced this test to include both phase I and phase II IgG and IgM levels. Note change in reference ranges.  
1/28/2016: CPT update  
12/21/2017: Collection container update.