Overview

Useful For
Diagnosis of Bartonella infection, especially in the context of a cat scratch

Highlights
This assay can be used as an aid to diagnose recent or past infection with Bartonella henselae or Bartonella quintana.

Testing Algorithm
Includes Bartonella henselae and Bartonella quintana.


Special Instructions
- Infective Endocarditis: Diagnostic Testing for Identification of Microbiological Etiology

Method Name
Immunofluorescence Assay (IFA)

NY State Available
Yes

Specimen

Specimen Type
Serum

Specimen Required

Container/Tube:

Preferred: Serum gel

Acceptable: Red top

Specimen Volume: 0.5 mL

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

Specimen Minimum Volume
0.15 mL

Reject Due To

<table>
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<tr>
<th>Gross hemolysis</th>
<th>Reject</th>
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<tbody>
<tr>
<td>Gross lipemia</td>
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Specimen Stability Information
**Clinical and Interpretive**

**Clinical Information**

*Bartonella henselae* and *Bartonella quintana* are small, rod-shaped, pleomorphic, gram-negative bacteria. The human body louse (*Pediculus humanis*) is the proposed vector for *B quintana*. No animal reservoir has been determined for *B quintana*. The domestic cat is believed to be both a reservoir and vector for *B henselae*. Cats may infect humans directly through scratches, bites, or licks, or indirectly through an arthropod vector. Humans remain the only host in which *Bartonella* infection leads to significant disease.

The sight of entry for *Bartonella* is through openings in the skin. Microscopically, *Bartonella* lesions appear as rounded aggregates that proliferate rapidly. These aggregates are masses of *Bartonella* bacteria. Warthin-Starry-staining has shown that *Bartonella* organisms can be present within the vacuoles of endothelial cells, in macrophages, and between cells in areas of necrosis. Occasionally organisms are seen in the lumens of vessels. While cutaneous lesions are common, disseminated tissue infection by *Bartonella* has been seen in the blood, lymph nodes, spleen, liver, bone marrow, and heart. *B henselae* has been associated with cat scratch disease (CSD), peliosis hepatitis (PH), bacillary angiomatosis (BA), and endocarditis. *B quintana* has been associated with trench fever, BA, and endocarditis. BA is a vascular proliferative disease usually involving the skin and regional lymph nodes.

CSD begins as a cutaneous papule or pustule that usually develops within a week after an animal contact. Regional lymphadenopathy, which follows, is the predominant clinical feature of CSD. Trench fever, which was a significant problem during World War I and World War II, is characterized by a relapsing fever and severe pain in the shins. PH and febrile bacteremia syndrome are both syndromes that have afflicted patients with AIDS or those patients who are immunocompromised. While trench fever and CSD are usually self-limiting illnesses, the other *Bartonella*-associated diseases can be life-threatening.

Interest in *B quintana* and *B henselae* has recently increased since its increased prevalence in patients with AIDS, in transplant patients, and those with suppressed immunity.

**Reference Values**

*Bartonella henselae*

- IgG: <1:128
- IgM: <1:20

*Bartonella quintana*

- IgG: <1:128
- IgM: <1:20

**Interpretation**
Test Definition: BART
Bartonella Ab Panel, IgG and IgM

A positive immunofluorescence assay (IFA) IgM (titer >1:20) suggests a current infection with either Bartonella henselae or B quintana.

A positive IgG (titer >1:128) suggests a current or previous infection. Increases in IgG titers in serial specimens suggest active infection.

Normal serum specimens usually have an IgG titer of less than 1:128. However, 5% to 10% of healthy controls exhibit a B henselae and B quintana titer of 1:128. Sera from healthy volunteers rarely show titers of 1:256 or greater. IgM titers in normal serum are typically less than 1:20. IgM titers at 1:20 or greater have not been seen in the normal population.

Molecular testing of tissue for Bartonella species nucleic acid is recommended in cases of suspected endocarditis.

Cautions
IgG cross-reactivity between Bartonella henselae and B quintana has been reported. However, the infecting species will usually have the higher titer.

IgM cross-reactivity is usually not seen. Significant cross-reactions have been reported between Bartonella species and Chlamydia species.

Clinical Reference

Performance

Method Description

PDF Report
No

Day(s) and Time(s) Test Performed
Monday through Saturday; 9 a.m.

Analytic Time
Same day/1 day

Maximum Laboratory Time
3 days

Specimen Retention Time
14 days

Performing Laboratory Location
Test Definition: BART
Bartonella Ab Panel, IgG and IgM

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 was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information

86611 x 4

LOINC® Information

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