## Lab Dept: Serology

## Test Name: MYCOPLASMA PNEUMONIAE, IGG/IGM

### *General Information*

**Lab Order Codes:** MYCO

**Synonyms:** M. pneumoniae IgG and IgM; Mycoplasma Serology

**CPT Codes:** 86738 x2 – Antibody; Mycoplasma
86738 x1 – Mycoplasma pneumoniae by direct FA, if approprirate

**Test Includes:** Testing for IgG and IgM class antibodies to *Mycoplasma pneumonia.* If IgM is not detected, a convalescent phase serum is recommended. If *Mycoplasma pneumoniae* antibodies, IgM is positive (>= 1.1), then *Mycoplasma pneumoniae* antibodies, IgM by indirect immunofluorescence (IFA) will be performed at an additional charge.

### *Logistics*

**Test Indications:** Useful for diagnosing *Mycoplasma pneumoniae* infection.

*Mycoplasma pneumoniae* is an important respiratory tract pathogen of humans. Several syndromes have been associated with the infection, including pharyngitis, tracheobronchitis, pneumonia, and inflammation of the tympanic membrane presenting as bullous myringitis

*Mycoplasma pneumoniae* accounts for approximately 20% of all cases of pneumonia. Classically, it causes a disease that has been described as primary atypical pneumonia. The disease is of insidious onset with fever, headache, and malaise for 2-4 days before the onset of respiratory symptoms. Most cases do not require hospitalization. Symptomatic infections attributable to this organism most commonly occur in children and young adults.

**Lab Testing Sections:** Serology - Sendouts

**Referred to:** Mayo Medical Laboratories (Test: MYCPN/85107)

**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 through Friday

**Special Instructions:** N/A

### *Specimen*

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|---|---|
| **Specimen Type:** | Blood |
| **Container:** | Red top tube |
| **Draw Volume:** | 3 mL (Minimum: 1.5 mL) blood |
| **Processed Volume:** | 1 mL (Minimum: 0.5 mL) serum |
| **Collection:** | Routine venipuncture |
| **Special Processing:** | Lab Staff: Centrifuge specimen, remove serum aliquot into a plastic, screw-topped round bottom plastic vial. Store and ship refrigerated. Forward promptly. |
| **Patient Preparation:** | None |
| **Sample Rejection:** | Specimens other than serum; warm specimens; gross hemolysis; gross lipemia; mislabeled specimens or unlabeled specimens |

### *Interpretive*

**Reference Range:**

| | | |
|---|---|---|
| **IgG Range:** | < or = 0.90 | Negative |
| | 0.91 - 1.09 | Equivocal |
| | > or = 1.10 | Positive |
| **IgM Range:** | < or = 0.90 | Negative |
| | 0.91 - 1.09 | Equivocal |
| | > or = 1.10 | Positive |
| **IgM by IFA Range:** | Negative (reported as positive or negative) | |

| | |
|---|---|
| | Positive IgM results are consistent with acute infection, although false-positives do occur. See Limitations.<br><br>A single positive IgG result only indicates previous immunologic exposure.<br><br>Negative results do not rule out the presence of *Mycoplasma pneumoniae*-associated disease. The specimen may have been drawn before the appearance of detectable antibodies. If testing is performed too early following primary infection, IgG and/or IgM may not be detectable. If a *Mycoplasma* infection is clinically indicated, a second sample should be submitted at least 14 days later. |
| **Critical Values:** | N/A |

**Limitations:**

A diagnosis should not be made on the basis of antimycoplasma results alone. Test results should be interpreted in conjunction with the clinical evaluation and the results of other diagnostic procedures.

The use of hemolytic, lipemic, bacterially contaminated, or heat-inactivated specimens should be avoided as erroneous results may occur.

Assay performance characteristics have not been established for matrices other than serum.

The continued presence or absence of antibodies cannot be used to determine the success or failure of therapy.

Testing should not be performed as a screening procedure for the general population. Testing should only be done when clinical evidence suggests the diagnosis of *Mycoplasma pneumoniae*-associated disease.

The performance of this test has not been established on neonates and immunocompromised patients.

Performance of the IgM assay has not been tested with specimens known to be positive for antibodies to organisms that are known to be associated with lower respiratory illness (ie, influenza A and B, cytomegalovirus, *Chlamydia-pneumoniae*, parainfluenza), and closely related serovars known to cross-react with *Mycoplasma pneumoniae*, such as *Mycoplasma geitalium* and *Mycoplasma hominis*, as well as various *Ureaplasma* species. Cross-reactivity studies with such organisms have not been performed with this assay.

The IgG removal system included with the IgM test system has been shown to functionally remove the IgG from specimens containing total IgG levels ranging from 300 to 600 mg/mL. The effectiveness of this removal system at IgG levels exceeding 600 mg/mL has not been established.

The prevalence of mycoplasma IgM antibody is relatively low, which affects the assay's predictive value.

**Methodology:**

Enzyme Immunoassay and Indirect Immunofluorescence Assay (if appropriate)

**References:**

Mayo Medical Laboratories Web Page March 2013

**Updates:**

12/19/2005: Reference ranges previously listed as IgG: <1:10, IgM: <1:10. The method was previously listed as Immunofluorescence.
1/6/2006: MML has decided to go back to the Immunofluorescence method after 3 weeks of using the Enzyme Immunoassay.
1/15/2008: MML has implemented the Enzyme immunoassay. Please see revised reference ranges and cautionary information.
3/17/2009: MML has added a reflex to Mycoplasma IFA when EIA IgM is positive.
8/23/2012: Moved from frozen to refrigerated storage/transport.