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| **Lab Dept:** | **Serology** |
| **Test Name:** | **MYCOPLASMA PNEUMONIAE, IGG & IGM** |

### *General Information*

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| **Lab Order Codes:** | MYCO |
| **Synonyms:** | *M. pneumoniae* IgG and IgM; Mycoplasma Serology |
| **CPT Codes:** | 86738 x2 – Antibody; Mycoplasma<br>86738 x1 – Mycoplasma pneumoniae by direct FA, if approprirate |
| **Test Includes:** | If the *Mycoplasma pneumoniae* IgM result is reactive or equivocal, then *M pneumoniae* IgM by indirect immunofluorescence assay will be performed at an additional charge. |

### *Logistics*

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| **Test Indications:** | Useful for screening for recent or past exposure to *Mycoplasma pneumoniae*. This test should not be used as a screening procedure for the general population. Detection of IgM or IgG class antibodies to *Mycoplasma pneumoniae* provides exposure information. The preferred method of diagnosis of acute *M pneumoniae* infection is by molecular detection. |
| **Lab Testing Sections:** | Serology - Sendouts |
| **Referred to:** | Mayo Clinic Laboratories (MML Test: MYCO) |
| **Phone Numbers:** | MIN Lab: 612-813-6280<br>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:** | SST (Gold, marble or red) tube |
| **Draw Volume:** | 3 mL (Minimum: 1.5 mL) blood |

**Processed Volume:** 1 mL (Minimum: 0.5 mL) serum

**Collection:** Routine blood collection

**Special Processing:** Lab Staff: Centrifuge specimen, remove serum aliquot into a plastic, screw-topped round bottom plastic vial. Store and ship refrigerated. Forward promptly.

Specimen stable refrigerated (preferred) or frozen for 14 days.

**Patient Preparation:** None

**Sample Rejection:** Mislabeled specimens or unlabeled specimens; gross hemolysis, lipemia; heat inactivated specimens.

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***Interpretive***

**Reference Range:**

IgG: Negative
IgM: Negative
IgM by indirect immunofluorescence: Negative

| IgG ELISA result | IgM ELISA result | Interpretation |
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| Positive | Negative | Results suggest past exposure. |
| Positive | Reactive | Prior exposure to *Mycoplasma pneumoniae* detected. Confirmatory testing for IgM to *M pneumonia* will be performed by an immunofluorescence assay. |
| | Equivocal | |
| Negative | Negative | No antibodies to *M pneumoniae* detected. Acute infection cannot be ruled out as antibody levels may be below the limit of detection. If clinically indicated, a second serum should be submitted in 14 to 21 days. |
| Negative | Reactive | No prior exposure to *Mycoplasma pneumoniae*. Confirmatory testing for IgM to *M pneumonia* will be performed by an immunofluorescence assay.. |
| | Equivocal | |
| Equivocal | Negative | Recommend follow-up testing in 10 to 14 days if clinically indicated. |
| | Reactive | Confirmatory testing for IgM to *M pneumonia* will be performed by an immunofluorescence assay. |
| | Equivocal | |

**Critical Values:** N/A

**Limitations:**

A diagnosis of *Mycoplasma pneumoniae* infection should not be solely based on results of serologic testing for this agent. Test results should be interpreted in conjunction with clinical evaluation and the results of other diagnostic procedures (e.g., molecular detection).

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 *M 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, *Chlamydophila pneumoniae*, parainfluenza), and closely related serovars known to cross-react with *M pneumoniae*, such as *Mycoplasma genitalium* 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.

**Methodology:**

Enzyme Immunoassay and Indirect Immunofluorescence Assay (if appropriate)

**References:**

Mayo Clinic Laboratories December 2024

**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.
2/2/2018: Collection container update
12/13/2024: Updated Mayo test code, reference ranges, test indications, limitations, reasons for rejection. Added specimen stability.