

Atypical Pneumonia Panel Real-time PCR

Chlamydia pneumoniae (*C. pneumoniae*, *C. pneumo*) is an obligate intracellular bacterium that forms large cytoplasmic inclusions. *C. pneumoniae* causes upper and lower respiratory tract infection and has been associated with up to 15% of community-acquired pneumonia cases in all ages. Primary infection occurs in school-age children, with reinfection in adulthood. Life-threatening illness has been noted in patients with immunocompromising conditions like leukemia. There is also some association between *C. pneumoniae* infection and chronic obstructive pulmonary diseases like asthma.

Legionella pneumophila (*L. pneumophila*, *L. pneumo*) is a Gram-negative bacterium whose natural reservoir is aquatic environments. *L. pneumophila* serogroup I causes 95-98% of community-acquired Legionnaire's disease. The resulting pneumonia ranges in severity from mild to fatal, depending on the immune status of the host. Immunocompromised patients, especially solid organ transplant recipients, are particularly susceptible to severe disease.

Mycoplasma pneumoniae (*M. pneumoniae*, *M. pneumo*) is a Mollicute that is part of the normal flora in humans, found primarily in the oropharynx. *M. pneumoniae* is the third most common etiological agent in acute respiratory infections in children, after Respiratory Syncytial Virus and Influenza Virus. Detection is important in hospitalized patients who are potentially underdiagnosed, because effective antibiotics are available for treatment. It can also minimize the use of broad-spectrum antibiotics ineffective against *M. pneumoniae*. Real-time PCR provides a rapid and sensitive method to determine the presence of target-specific amplifiable nucleic acids in all samples intended for PCR¹⁻³. For more information, call the lab at 513-636-9820.

Reporting Units:

Positive/Negative

Sample Type	Volume Needed	Collection Container
Aspirate: endotracheal tube, tracheal	1mL	Sterile Container
Body Fluids (i.e. pericardial, pleural)*	1mL	Sterile Container
Bronchoalveolar Lavage (BAL) fluid	1mL	Sterile Container
Cerebrospinal Fluid (CSF)*	1mL	Sterile Container
Swab**: nasal, nasopharyngeal, throat	n/a	Red or Green Culturette Swab
Tissue (Lung)***	0.3 g	Sterile Container

* Not preferred specimen types for analyzing respiratory viral agents.

** Red or green top culturette swabs preferred; viral transport media acceptable.

*** Wrap tissue in gauze wetted slightly with sterile saline to keep moist during transport.

Unacceptable Specimens:

- Frozen whole blood
- Swabs in gel or charcoal media

Shipping Conditions:

- Ambient if sent within 24 hours
- On cold packs if sent >24 hours after collection

Testing Schedule:

Atypical pneumonia panel and individual analyte(s) testing is performed Mon-Fri on first shift. For testing outside of this schedule, call the lab at 513-636-9820.

TAT: 1-3 days

CPT Codes:

Atypical pneumonia panel: 87581x3

C. pneumo: 87581

L. pneumo: 87581

M. pneumo: 87581

Contact Information:

Cincinnati Children's Division of Pathology
Molecular and Genomic Pathology Services (MGPS)

Phone: 513-636-9820

Fax: 513-517-7099

Email: pathology@cchmc.org

Website: cincinnatichildrens.org/pathology

For pricing or billing questions, call 513-636-4261.

Shipping Address:

Cincinnati Children's Hospital Medical Center

Attn: Molecular and Genomic Pathology Services (MGPS)

240 Albert Sabin Way, R2.001

Cincinnati, OH 45229

References:

1. Versalovic J, Carroll K, Funke G, et al, eds. Manual of Clinical Microbiology. 10th ed. American Society of Microbiology Press, Washington D.C. 2011.
2. Persing D, Tenover F, Tang Y, et al, eds. Molecular Microbiology: Diagnostic Principles and Practice. 2nd ed. American Society of Microbiology Press, Washington D.C. 2011.
3. Forbes B, Sahm D, Weissfeld A. Bailey and Scott's Diagnostic Microbiology. 12th ed. Mosby/Elsevier. 2007.

Clinical Lab Index:

Atyp Pn panel: <https://www.testmenu.com/cincinnatichildrens/Tests/662827>

C. pneumo: <https://www.testmenu.com/cincinnatichildrens/Tests/662829>

L. pneumo: <https://www.testmenu.com/cincinnatichildrens/Tests/662836>

M. pneumo: <https://www.testmenu.com/cincinnatichildrens/Tests/662833>