NATIVE LAB SERVICES

RAPID DETECTION

Respiratory Pathogen Panel

A single sample to identify various respiratory pathogens.

Patients with respiratory symptoms may need a respiratory pathogens panel (RPP) to help diagnose infections of the upper respiratory tract. Samples are taken from patients using a nasopharyngeal swab or nasal aspirate.

Our molecular diagnostic testing uses quantitative polymerase chain reaction (qPCR) to identify various forms of acute respiratory tract infections (ARTI). Our RPP screens 45 targets in a single test designed to rapidly differentiate and identify multiple pathogens found in common ARTI.

BENEFITS OF DNA-BASED DETECTION

- Faster results save time
- Accuracy (>95%)
- Consistency
- Precision
- Ultra-high sensitivity (>95%) and specificity (>99%)
- Fast detection = earlier start on the right treatment

PATIENT BENEFIT

Many types of viruses and bacteria can infect the respiratory tract. Symptoms are often similar, but treatment can be very different. From a single sample, the RPP helps to make the right diagnosis in a few hours. Faster accurate results may allow patients to start the proper treatment — earlier.

WHAT IS COVERED?

In most cases, insurance plans cover the cost of genetic testing when recommended by a person's doctor for medically necessary diagnosis and treatment.

Accurate detection for guided therapy and infection control.

STARTING WITH RPP

With the rising threat of COVID-19 and other respiratory diseases, accurate pathogen detection is critical. ARTI are common in outpatient settings where antibiotics are often prescribed for the treatment, although ARTI are predominantly viral.[1]

Our RPP screens 45 targets with an overall sensitivity of 95% and specificity of 99%. This level of rapid and accurate detection of respiratory pathogens helps clinicians determine a patient's need for antibiotic or antiviral therapy.

1 - Mossad S. Upper respiratory tract infections. Cleveland: Cleveland Clinic; 2013. https://teachmemedicine.org/cleveland-clinic-upper-respiratory-tract-infections/.

Respiratory Pathogen Panel

MOLECULAR (DNA) BASED DETECTION

NATIVE LAB SERVICES

Respiratory Testing Panels

BACTERIAL TARGETS

Pneumonia Panel
- Chlamydia pneumoniae
- Streptococcus pneumoniae
- Klebsiella pneumoniae
- Haemophilus influenzae
- Legionella pneumophila
- Moraxella Catarrhalis
- Bordetella pertusis (whooping cough)
- Bordetella pan
- Bordetella holmesii
- Staphylococcus aureus
- MRSA

FUNGAL TARGETS

- Pneumocystis Jirovecii

VIRAL TARGETS

Influenza Panel
- Influenza (A Pan, H1N1, H3N2)
- Influenza B Pan
- Parainfluenza (1, 2, 3, 4)

Common Cold Panel
- Adenovirus 1 and 2 Alpha
- Adenovirus 1 and 2 Beta
- Human Bocavirus
- Coronavirus (229E, HKU1, NL63, OC43)
- Enterovirus Pan
- Enterovirus D68
- Human Rhinovirus 1
- Human Rhinovirus 2
- Human Parechovirus

Respiratory Syncytial Virus A/B

Human Metapneumovirus

SARS (Severe Acute Resp Syndrome)

MERS (Middle East Resp Syndrome)
- Varicella-zoster Virus
- Epsetin-Barr Virus
- Cytomegalovirus
- Human Herpesvirus 6
- Measles
- Mumps

COVID-19

- SARS-COV-2

Other viral and bacterial tests for respiratory infections are often limited to testing for one specific category of pathogen (bacteria, virus, fungus), where several samples are needed. The process can be difficult and time consuming, which also increases costs. Our RPP can target over 45 different respiratory related pathogens. Additionally, our configured TaqMan® cards or OpenArray™ plates increase target count while decreasing costs per sample.

Testing Methods Comparison

Rapid Bacterial

✓ Speed	✗ Lack specificity
✓ Cost	✗ No information on resistance or virulence
✓ Ease of Use	✗ Speciation is difficult and potentially confounding

Culture & Sensitivity

✓ Sensitivity analysis can provide antibiotic MIC	✗ Up to 1-2 weeks to isolate individual pathogens from routine normal flora
✓ Allows for quantization of bacterial population	✗ Highly variable between technologist experience and training
	✗ Not all organisms of infectious biofilms will grow in culture

Molecular (DNA) Based Diagnosis

- ✓ Speed
- ✓ Ultra-high Accuracy (>95%)
- ✓ Consistency
- ✓ Precision
- ✓ Ultra-high detection sensitivity (>95%)
- ✓ Ease of use (automated opportunities)
- ✓ Can detect numerous individual entities in a biofilm without loss to culture