



RESPIRATORY PATHOGEN PANEL

Personalized for the Patient.
Rapid, Sensitive, and multiplexed
real-time PCR based detection of
respiratory pathogens.



**ELITE CLINICAL
LABORATORY**

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The reports and content within should be considered referenced suggestions.
Ultimately, final medical decisions are made by your respective healthcare provider.

The clinical presentation of respiratory pathogens is very similar, complicating diagnosis and appropriate therapy selection. Traditional diagnostic methods **can be slow and miss the cause of infection.**

Respiratory Tract Infections cause more doctor visits and absences from school and work than any other illness. ¹

1 Billion

colds in the United States per year² and approximately

500 Million non-influenza infections^{1,3,4}



High-Risk Groups

are more likely to die from complications or be hospitalized with worsening conditions. ⁵

Children younger than 5

especially children less than 2 years old

Adults 65 years of age and older

Pregnant women

Critically ill patients

especially immunocompromised, e.g. cancer and transplant patients

Traditional Diagnostic Methods are slow and do not offer comprehensive pathogen detection.



Antigen detection, DFA, and culture delay treatment decisions

8
HOURS
TO
72
HOURS

What are you missing?

It's not just flu:

ONLY **16%**

of positive results are influenza ⁶

1. Upper Respiratory Infection (URI or Common Cold). Johns Hopkins Medicine. Retrieved from http://www.hopkinsmedicine.org/healthlibrary/conditions/pediatrics/upper_respiratory_infection_uri_or_common_cold_90,P02966/ (Date accessed: May 2017)

2 The Common Cold Fact Sheet. National Institute of Allergy and Infectious Diseases, National Institutes of Health. December 2004.

3 Seasonal Influenza, More Information. Centers for Disease Control and Prevention. <https://www.cdc.gov/flu/about/qa/disease.htm> (Date accessed: May 2017)

4 Seasonal Influenza. European Centre for Disease Prevention and Control.

5 Flu Symptoms & Complications. Centers for Disease Control and Prevention. <https://www.cdc.gov/flu/about/disease/complications.htm> (Date accessed: May 2017)

6 Schreckenberger, P. and McAdam, A. (2015). Point-Counterpoint: Large Multiplex PCR Panels Should Be First-Line Tests for Detection of Respiratory and Intestinal Pathogens. J Clin Microbiol. 53(10):3110-5. doi: 10.1128/JCM.00382-15

Elite Clinical Laboratory RP Panel covering most of the Respiratory Pathogens and antibiotic Resistance bacterial strains.

Influenza A virus (Flu A)	Virus
Influenza B virus (Flu B)	Virus
Respiratory Syncytial Virus A (RSV A)	Virus
Respiratory Syncytial Virus B (RSV B)	Virus
Flu A -H1	Virus
Flu A -H1pdm09	Virus
Flu A -H3	Virus
Adenovirus (AdV)	Virus
Enterovirus (HEV)	Virus
Parainfluenza Virus 1 (PIV 1)	Virus
Parainfluenza Virus 2 (PIV 2)	Virus
Parainfluenza Virus 3 (PIV 3)	Virus
Parainfluenza Virus 4 (PIV 4)	Virus
Metapneumovirus (MPV)	Virus
Bocavirus (HBoV)	Virus
Rhinovirus (HRV)	Virus
Coronavirus NL63 (CoV NL63)	Virus
Coronavirus 229E (CoV 229E)	Virus
Coronavirus OC43 (CoV OC43)	Virus
Streptococcus Pneumoniae	Bacteria
Mycoplasma Pneumoniae	Bacteria
Chlamydomphila Pneumoniae	Bacteria
Legionella Pneumophila	Bacteria
Haemophilus Influenzae	Bacteria
Bordetella Pertussis	Bacteria
Bordetella Parapertussis	Bacteria
NDM, KPC, OXA48, VIM, IMP	AR gene
Extended Spectrum CTX -M	AR gene



Target	Classification (Genome Type)	Seasonal Prevalence*	Most Commonly Infected Demographic
Adenovirus (A-F)	Adenovirus (DNA)	Late winter to early summer ⁷	All ages, immunocompromised⁸
Coronavirus (229E, HKU1, NL63, OC43)	Coronavirus (RNA)	Winter, spring ⁹	All ages⁹
SARS-CoV-2	Coronavirus (RNA)	Unknown ⁴	Not established⁴
Human Metapneumovirus	Paramyxovirus (RNA)	Winter ¹⁰	Children, elderly, immunocompromised¹¹
Human Rhinovirus/ Enterovirus	Picornavirus (RNA)	Fall, spring ^{12/} Summer ¹³	All ages, immunocompromised^{12, 13, 14}
Influenza A	Orthomyxovirus (RNA)	Winter ³	All ages³
Influenza A H1			
Influenza A H1-2009			
Influenza A H3			
Influenza B			
Parainfluenza Virus 1	Paramyxovirus (RNA)	Fall ¹⁵	All ages¹⁶
Parainfluenza Virus 2		Fall, early winter ¹⁵	
Parainfluenza Virus 3		Spring, summer ¹⁵	
Parainfluenza Virus 4		Fall, early winter ¹⁵	
Respiratory Syncytial Virus A	Paramyxovirus (RNA)	Winter ^{17, 18}	Infants, children, older adults^{17, 18}
Respiratory Syncytial Virus B			
Chlamydia pneumoniae	Bacterium (DNA)	No peak season ¹⁹	All ages, most common in children¹⁹
Mycoplasma pneumoniae	Bacterium (DNA)	Late summer, fall ²⁰	Children, young adults²¹
Streptococcus pneumoniae	Bacterium (DNA)		

A respiratory pathogens (RP) panel checks for pathogens in the respiratory tract. A pathogen is a virus, bacteria, or other organism that causes an illness. Your respiratory tract is made up of parts of the body involved in breathing. This includes your lungs, nose, and throat.

There are many types of viruses and bacteria that can infect the respiratory tract. Symptoms are often similar, but treatment can be very different. Hence, it's important to make the right diagnosis. Other viral and bacterial tests for respiratory infections are often limited to testing for one specific pathogen. Several samples may be needed. The process can be difficult and time consuming.

The following symptoms may be due to air or droplet borne infections.

A respiratory pathogen panel may be ordered when you are seriously ill or at increased risk of complications and have signs and symptoms associated with an upper respiratory infection, especially if they are prolonged and do not resolve without treatment. Signs and symptoms may include:

- Coughing, sneezing
- Stuffy or runny nose
- Sore throat
- Headache
- Weakness, fatigue
- Muscle aches
- Fever, chills
- Wheezing, difficulty breathing
- Low appetite
- In some cases, diarrhea, and vomiting.

Elite Clinical Laboratory's comprehensive RP panel detects most of the respiratory pathogens through cutting-edge real-time PCR technology.

Elite Clinical Laboratory respiratory pathogens panel is used to help diagnose:

Viral infections, such as:

- Flu and Common cold.
- Respiratory syncytial virus (RSV). This is a common and usually mild respiratory infection. But it can be dangerous to babies and the elderly.
- Adenovirus infection. Adenoviruses cause many different types of infections. These include pneumonia and croup, an infection that causes hoarse, barking coughs.

Bacterial infections, such as:

- Whooping cough and Bacterial pneumonia.
- Antibiotic resistance genes are detected.

Why Elite RP Panel:

1. It is a comprehensive panel covering all the respiratory viral pathogens and bacteria.
2. It has a vast range of common antibiotic resistance genes. For a culture setup this is almost impossible to detect antibiotic resistance within a span of 48hours.
3. No special medium or special equipment required with multiplex mode of respiratory pathogen detection- which translates to rapid turnaround times.
4. Antibiotic stewardship and medication prescription module also available.
5. Customized reports and interpretation.
6. Trusted partner in quality and delivery of molecular diagnostics service.

"Dedicated towards betterment"

Elite Clinical Laboratory is a full service, national diagnostic testing laboratory headquartered in Houston, Texas with concentrations in clinical diagnostics, toxicology, genetic sequencing and molecular testing. Elite Clinical Laboratory is devoted to redefining diagnostic services by providing medical practitioners and their patients with exceptional customer service paired with the most advanced and informative medical analytics to assist them in making effective treatment decisions.

Elite Clinical Laboratory fully automated laboratory utilizes state-of-the-art technologies to deliver high quality test results and service while exceeding the turnaround time requirements and demands of our physician clients. Elite Clinical Laboratory currently analyzes samples for hundreds of thousands of patients per year from providers and healthcare facilities all across the nation.

As our clients have trusted our laboratory with being an analytical and integral part of their patients' diagnosis and treatment process, we believe in respecting that trust with continuous dedication to customer satisfaction and support. We join our clients and physicians in their belief that patient care is and always will be the number one priority. Elite's personalized support and professional service continues to exceed the expectations of our valued clients, providers and facilities. More healthcare facilities and providers, in private practices, in hospitals and in long term care facilities, are placing their trust in Elite Clinical Laboratory; and, together we are transforming advanced diagnostic information into knowledge and superior treatment options for more and more patients every day.

