

Respiratory Pathogens

This test detects potential respiratory pathogens by unbiased next-generation DNA and RNA sequencing of viral, bacterial, and fungal transcription and genome sequences. Sequencing data are interpreted by IDbyDNA's clinical metagenomics software platform.

Negative results do not rule out viral, bacterial, or fungal infections. Results from this test need to be interpreted in conjunction with clinical history, results of other laboratory tests, epidemiologic information, and other available data. Targeted, PCR-based tests are generally more sensitive and are preferred when specific pathogens are suspected, especially for DNA viruses (adenovirus, CMV, HHV6, HSV, and VZV), mycobacteria, and fungi.

References

1. Top 20 pneumonia facts—2015. www.thoracic.org/patients/patient-resources/resources/top-pneumonia-facts.pdf (accessed on September 19, 2017).
2. Schlaberg R, et al. Validation of metagenomic next-generation sequencing tests for universal pathogen detection. *Arch Pathol Lab Med* 2017;141(6):776–86.
3. Graf EH, et al. Unbiased detection of respiratory viruses by use of RNA sequencing-based metagenomics: a systematic comparison to a commercial PCR panel. *J Clin Microbiol.* 2016; 54(4):1000–7.

Respiratory Infections by Next-Generation Sequencing

Explify™
Respiratory



ARUP co-developed Explify Respiratory in collaboration with IDbyDNA. www.idbydna.com.

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keywords: Explify

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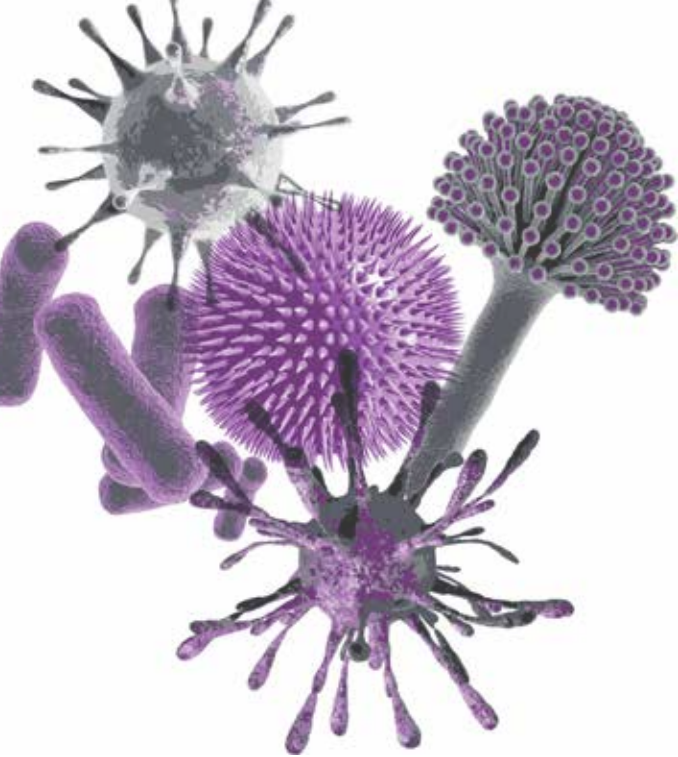
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testing at ARUP Laboratories





Each year, more than one million patients in the United States alone are admitted to the hospital and treated for pneumonia and related symptoms.¹

Current laboratory workup for pneumonia involves multiple tests, including cultures, microscopy, EIA, and PCR, the results of which may not be available for days or weeks.

In a strategic partnership with IDbyDNA, ARUP is now offering Explify™ Respiratory, a novel next-generation sequencing (NGS) test that provides universal pathogen-detection testing for respiratory infections.

NGS testing is used for rapid detection of more than 200 common and rare bacterial, viral, and fungal respiratory pathogens.

When to Order Testing

Many respiratory pathogens cause very similar clinical symptoms but need to be treated differently. For optimal therapy, the pathogen(s) causing a patient's symptoms need to be identified. Because this is often unsuccessful, the patient may require broad-range empirical treatment.

Explify Respiratory detects more than 200 viral, bacterial, and fungal pathogens by sequencing their RNA and DNA from the patient sample.² With Explify Respiratory, more actionable results can be provided as compared to PCR, ELISA, DFA, and culture.³

Currently validated specimens (2 mL, 1.2 mL minimum) include lower respiratory material by bronchoscopy.

Why order Explify Respiratory?

- Cultures and microscopy lack sensitivity, and many pathogens may not be detected.
- Some organisms do not grow well in culture, require special growing conditions, or may not be viable in patients who have received antibiotic treatment.
- Fragile organisms may not survive prolonged specimen transport and may become undetectable by culture.
- Routine PCR tests target mostly viruses, individually or in limited panels.
- Genetic variation can be a challenge to routine PCR testing, and variant strains can be missed.

Laboratory Testing

ARUP test code and name

2013694	Explify Respiratory Pathogens by Next Generation Sequencing
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Specific Supplies

Available online through eSupply using ARUP Connect™ or contact ARUP Client Services at (800) 522-2787.



200
Detects more than 200 common and rare bacterial, viral, and fungal pathogens in respiratory specimens

Includes detailed, user-friendly enhanced report to help guide therapeutic decisions

Detects organisms that may not grow well in culture, as well as co-infections by multiple pathogens



Limits risk of missing relevant pathogens

Provides a new option for very ill patients, or patients with suspicion of infection, who resulted negative with traditional tests like culture and PCR