IDbyDNA and ARUP Laboratories Introduce Explify Respiratory: Breakthrough Technology to Diagnose Pneumonia Caused by Previously Undetected Pathogens

Metagenomics test identified pathogens missed by conventional lab tests in 44 percent of immunocompromised children treated for respiratory infection

SAN FRANCISCO & SALT LAKE CITY-- September 19, 2017 ARUP Laboratories and IDbyDNA, Inc., a data analytics-driven metagenomics company, announce the launch of Explify™ Respiratory, a novel next-generation sequencing (NGS) test for respiratory infections. The test is now available to ARUP's 3,000-plus clients across the country, providing a new solution for thousands of physicians who currently experience difficulty in diagnosing and treating patients with pneumonia and other respiratory diseases.

This is the first in a line of tests the two companies intend to launch as part of a previously announced strategic partnership to develop and commercialize novel infectious disease testing using metagenomics. This hypothesis-free approach to infectious disease testing uses DNA and RNA analysis to quickly identify bacteria, viruses, fungi, and parasites in patient samples.

"Other available tests are frequently unsuccessful and inefficient in identifying the cause of respiratory infections, prolonging the diagnostic process and leaving infectious disease physicians, pulmonologists, and intensivists to treat patients empirically," says Charles Dela Cruz, MD, PhD, an associate professor of Internal Medicine and Microbial Pathogenesis at Yale University School of Medicine and director of its Center for Pulmonary Infection Research and Treatment.

Explify Respiratory was developed to address this diagnostic quandary. It detects more than 200 common and rare bacterial, fungal, and viral respiratory pathogens with a single test. By providing more comprehensive and actionable information within a clinically relevant turnaround time, Explify Respiratory testing can help reduce inappropriate antibiotic use, avoid sequential testing, and potentially shorten hospital stays. The test is powered by IDbyDNA's Taxonomer software, a DNA search engine that can rapidly identify any organism by its genetic material.

“Explify Respiratory will provide clinicians with another valuable tool in solving diagnostic dilemmas, enabling them to deliver more personalized treatments for their patients,” adds Dela Cruz.

Recent Study Confirms Effectiveness of Explify Respiratory

In a study presented at the 2017 American Thoracic Society Annual Meeting, Explify Respiratory identified pathogens missed by conventional laboratory tests in 44 percent of immunocompromised children treated in the ICU for pneumonia.

“Current diagnostic techniques rely heavily on testing for suspected pathogens, which can be inconclusive and time-consuming,” says Robert Schlaberg, MD, Dr Med, MPH, a specialist in molecular infectious disease testing at ARUP. “This technology can test for a very large number of pathogens at once, whether they are expected or not. A doctor doesn’t have to suspect the cause of a patient’s infection to direct the test ordering, but can instead simply ask, ‘What is my patient infected with?’”

“We believe Explify Respiratory will provide the critical missing information that clinicians need to direct treatment decisions and will initially be most helpful for very ill patients, test-negative patients with a high level of suspicion for a missed infection, and immunocompromised patients who might be infected with a long list of diverse pathogens,” says Jeffrey Field, IDbyDNA’s chief commercial officer.

Metagenomic Testing: A Diagnostic Breakthrough

Diagnosing patients—particularly critically ill, immunocompromised patients—with suspected pneumonia can potentially require more than a dozen tests (including test panels) to determine the culprit pathogen.

“Metagenomic testing is a paradigm shift in our approach to infectious disease diagnosis,” says Carrie Byington, MD, an expert in pediatric infectious diseases and an IDbyDNA advisor. “Compared with traditional testing modalities, the comprehensive nature of metagenomic testing will open new opportunities for identifying and understanding infectious pathogens and the roles they play in human health and disease.”

Dr. Byington, who is also dean of the Texas A&M College of Medicine, says that metagenomics provides tremendous value in multiple clinical scenarios in which conventional testing often fails to identify a pathogen and limits the understanding of pneumonia in both previously healthy and immunocompromised populations. She adds, “This test will deliver clinicians more actionable results than was possible with previous testing methodologies.”

About ARUP Laboratories

Founded in 1984, ARUP Laboratories is a leading national reference laboratory and a nonprofit enterprise of the University of Utah and its Department of Pathology. ARUP offers more than 3,000 tests and test combinations, ranging from routine screening tests to esoteric molecular and genetic assays. ARUP serves clients across the United States, including many of the nation’s top university teaching

hospitals and children's hospitals, as well as multihospital groups, major commercial laboratories, group purchasing organizations, military and other government facilities, and major clinics. In addition, ARUP is a worldwide leader in innovative laboratory research and development, led by the efforts of the ARUP Institute for Clinical and Experimental Pathology®. ARUP is ISO 15189 CAP accredited.

About IDbyDNA

As a global leader in metagenomics, microbial genetics, and data analytics, IDbyDNA has a mission of enabling the identification of any microbe, from any sample, anywhere in the world. Leveraging advanced genome science and cutting-edge search technologies, IDbyDNA is leading the transformation of infectious disease diagnosis. IDbyDNA develops and commercializes laboratory testing products that are more comprehensive and accurate to provide clinicians and their patients with more informative results than ever before, and in a clinically actionable turnaround time. For more information, please visit www.idbydna.com.

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