![Akonni Biosystems logo]

Contact:
Michael Reinemann, Director of Business Development
301-698-0101
mreinemann@akonni.com

FOR IMMEDIATE RELEASE:

Akonni Biosystems Awarded NIH Contract to Develop a Non-Invasive Rapid Diagnostic for Lower Respiratory Diseases in Children

Technology to improve the identification of clinically relevant viruses, bacteria and fungal pathogens

FREDERICK, MD – August 9, 2017 – Akonni Biosystems, a molecular diagnostics (MDx) company that develops, manufactures, and intends to market advanced MDx systems, today announced receipt of a Phase 1 Small Business Innovation Research (SBIR) contract (HHSN272201700063C) from the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health (NIH) in the Department of Health and Human Services (HHS). The award will help Akonni accelerate the advancement of its proprietary technologies to address the critically unmet need for simple, effective and affordable tools to diagnose lower respiratory diseases in children.

According to the World Health Organization (WHO), acute respiratory infections are the third leading cause of death worldwide, accounting for 4.2 million deaths annually, more than 40% of which are children under the age of five. Infectious respiratory pathogens include different types and species of bacteria, viruses, and fungi, many of which exhibit varying levels of drug-resistance, making it challenging to establish a definitive diagnosis and appropriate treatment. Conventional diagnostic techniques require long turnaround times (*e.g.,* cultures require 5 to 10 days) or lack the required sensitivity (*e.g.,* lateral flow assays for influenza have limited sensitivity to as little as 10.4%). Compounding the testing time and poor sensitivity issues is the limited ability to test for a variety of different respiratory pathogens simultaneously. Recently developed multiplexed molecular diagnostic respiratory panels offer the potential to address these issues.

"The diagnosis of lower respiratory tract infections in children presents an additional challenge," said Dr. Rebecca Holmberg, Director of Application Development at Akonni and Principal Investigator on this project along with Dr. Christopher Cooney, Director of Engineering. "Specimen collection of sputum is difficult for children to produce and bronchoalveolar lavage is invasive and burdensome for children, particularly for those with wheezing and coughing

symptoms.   These collection methodologies also introduce variability in the quality of the specimen and is dependent on the skill and experience of the nurse or technician. Parents can thus be deterred by the harshness of these procedures, potentially avoiding care and risking more severe outcomes as well as the further spread of the disease."

As a consequence of this continued reliance on relatively ineffective technologies, patient misdiagnosis occurs frequently. Misdiagnosis presents several serious risks, such as public endangerment or the administration of inappropriate therapy, which is largely responsible for the increasing prevalence of drug-resistant strains. Michael Reinemann, MPH, Director of Business Development at Akonni stated, "Akonni's unique solutions for diagnosing respiratory infections from non-invasive samples offer the potential to reduce the morbidity, mortality and cost of treatment for the millions of affected children each year. We are excited to work on this project, which aligns very nicely with Akonni's mission to develop rapid, affordable and accurate molecular diagnostic tools that will measurably improve the health status of millions of people worldwide."

For more information visit: www.akonni.com.

About Akonni Biosystems

Akonni Biosystems was founded in 2003 and has been issued 21 US and 36 International patents primarily covering sample preparation, microfluidic devices, bioinstrumentation, and integrated systems. Product development has been supported by a series of government grants and contracts from NIH, CDC, DOE, DOD, NIJ, and NSF. The company significantly advanced the original technology by improving the system's capabilities from sample preparation to test result. Commercial products in Akonni's near-term pipeline include rapid sample preparation technologies for nucleic acid extraction and multiplex panel assays for detecting clinically relevant genotypes for pharmacogenomics, human chronic diseases, and genotypes for infectious diseases such as multidrug-resistant tuberculosis (MDR-TB), extensively drug-resistant tuberculosis (XDR-TB), upper respiratory infections, viral encephalitis, and hospital-acquired infections (MRSA).