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The *Journal of Molecular Diagnostics* Publishes Article on Next Generation Sequencing for Diagnosis and Management of Infectious Diseases

Article reviews NGS applications, challenges and opportunities in infectious disease testing

Bethesda, MD, October 1, 2015

The Association for Molecular Pathology (AMP), the premier global, nonprofit organization serving molecular laboratory professionals, announced that The Journal of Molecular Diagnostics today published a Special Article titled, "Next-Generation Sequencing for Infectious Disease Diagnosis and Management: A Report of the Association for Molecular Pathology." Clinical use of next generation sequencing (NGS) was implemented early in cancers and inherited diseases; now, its technology and applications are being applied to infectious diseases.

AMP's paper offers an up-to-date review of NGS applications such as: genotypic resistance testing, direct detection of unknown disease-associated pathogens in clinical specimens, characterization of disease-related changes in the microbial population diversity of the human host, and strain typing for epidemiology and infection control. It also addresses the challenges and opportunities for NGS in infectious disease testing.

"NGS holds enormous promise for clinical infectious diseases testing," said Dr. Benjamin Pinsky, the manuscript's corresponding author. "Though significant technical, bioinformatics, and regulatory challenges remain to be overcome before NGS is widely adopted for routine testing in clinical microbiology, a number of academic and reference laboratories are already using this technology in the clinical setting, providing NGS-based tests for HIV-1 drug resistance, as well as the diagnosis of mixed bacterial infections," Dr. Pinsky added. "This paper highlights not only these existing clinical NGS tests, but also future applications for NGS in infectious diseases, such as microbiome characterization and culture-independent pathogen identification and susceptibility testing."

"NGS permits identification of novel organisms that may remain unidentified following clinical testing using current technologies," said Dr. Michael Lewinski, Chair of AMP's Infectious Diseases Subdivision. "NGS also has an important role in identifying new and emerging organisms that could pose a challenge to mounting an effective treatment response," Dr. Lewinski added.

"There is always a pressing demand for labs to improve turnaround time and productivity," said Dr. Marina Nikiforova, Chair of the AMP Clinical Practice Committee. "NGS has the ability to process large numbers of samples concurrently in a single assay to reduce the time it takes for diagnosis and, with additional improvements in NGS technology, it may become a routine test in diagnostics of infectious diseases, providing help with better disease management," said Dr. Nikiforova.

The paper is a product of the AMP Next Generation Sequencing in Infectious Diseases Work Group, a joint project of the AMP Infectious Diseases Subdivision Leadership and Clinical Practice Committees.

Link to article in JMD: <http://jmd.amjpathol.org/article/S1525-1578%2815%2900172-5/fulltext>

About *The Journal of Molecular Diagnostics*

The Journal of Molecular Diagnostics (JMD) (<http://jmd.amjpathol.org>), the official publication of the Association for Molecular Pathology, co-owned by the American Society for Investigative Pathology and published by Elsevier, publishes high quality original papers on scientific advances in the translation and validation of molecular discoveries

in medicine into the clinical diagnostic setting, and the description and application of technological advances in the field of molecular diagnostic medicine.

ABOUT AMP:

The Association for Molecular Pathology (AMP) was founded in 1995 to provide structure and leadership to the emerging field of molecular diagnostics. AMP's 2,300+ members include individuals from academic and community medical centers, government, and industry; including pathologist and doctoral scientist laboratory directors; basic and translational scientists; technologists; and trainees. Through the efforts of its Board of Directors, Committees, Working Groups, and members, AMP is the primary resource for expertise, education, and collaboration in one of the fastest growing fields in healthcare. AMP members influence policy and regulation on the national and international levels, ultimately serving to advance innovation in the field and protect patient access to high quality, appropriate testing. For more information, visit www.amp.org.

CONTACT:

Rick Roose, on behalf of AMP
Bioscribe Life Science Communications
Rick@bioscribe.com
415-202-4445

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