

Thermo Fisher Scientific Launches Axiom Microbiome Array for Research

SANTA CLARA, Calif., Feb. 5, 2018 /[PRNewswire](#)/ -- Thermo Fisher Scientific, the world leader in serving science, recently launched the Applied Biosystems Axiom Microbiome Array for simultaneous detection of archaea, bacteria, fungi, protozoa and viruses in human and non-human samples. Developed in collaboration with the Lawrence Livermore National Laboratory (LLNL), the array is designed to increase the understanding of microorganisms, while accelerating the translation of these insights into human health and agricultural applications.

Affordable next-generation sequencing technologies have transformed microbiome research, resulting in huge volumes of microbiome-generated data that require advanced informatics. With the release of the Axiom Microbiome array, an orthogonal approach to elucidation of diverse microbiota is possible.

A major advantage of the array, which incorporates sequences for over 12,595 species in the National Center for Biotechnology Information (NCBI) archive, is the simultaneous detection of protozoa and viruses and ease of analysis, a capability that is not available with 16S or other platforms.

"We were proud to partner with LLNL to develop this microarray and analysis software to offer a cost-effective technology for species and strain level identification of several thousand species in a single scalable assay," said Shantanu Kaushikkar, director, genotyping and agrigenomics microarray platform at Thermo Fisher Scientific. "This solution helps address several of the challenges associated with detection and insight into the human microbiome, which plays a key role in human health and disease. We look forward to collaborating with global scientists in this community to make in-roads in the field of microbiome research in humans and animals."

Prior to commercial availability, the Axiom Microbiome Array was included in a pilot to determine a sample collection protocol for potential use in a wider UK Biobank participant collection program.

"Axiom Microbiome Array provided useful data on samples that were collected as part of the pilot," said Dr. Rachael Almond, laboratory scientific director, UK Biobank. "The array results were very informative which was helpful in guiding our selection of an appropriate sample collection protocol. One of the benefits of the array to our project was the ease of analysis and capability to simultaneously interrogate all five super kingdoms of life."

Most recently, the Axiom Microbiome Array won the R&D 100 Award, which honors great R&D pioneers and their revolutionary ideas in science and technology.

"We are humbled -to receive this prestigious award," said Tom Slezak, associate program leader at LLNL. "The ideal technology balances the four most important parameters for pan-microbial detection: scale, cost per sample, resolution and time to answer. The partnership with Thermo Fisher Scientific is an important milestone for LLNL as it brings together powerful capabilities between the two organizations."

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About Lawrence Livermore National Laboratory (LLNL)

[Lawrence Livermore National Laboratory](http://www.llnl.gov)'s defining responsibility is ensuring the safety, security and reliability of the nation's nuclear deterrent. Yet LLNL's mission is broader than stockpile stewardship, as dangers ranging from nuclear proliferation and terrorism to energy shortages and climate change threaten national security and global stability. The Laboratory's science and engineering are being applied to achieve breakthroughs for counterterrorism and nonproliferation, defense and intelligence, energy and environmental security. For more information, please visit <https://www.llnl.gov>.

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