



Pacific Biosciences Launches Microbial Multiplexing Kit, New SMRT Grant Program

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New Tools Unveiled at ASM Annual Meeting Enable Microbiologists to Do More, See More Than Ever Before

MENLO PARK, Calif., June 07, 2018 (GLOBE NEWSWIRE) -- Pacific Biosciences of California Inc., (Nasdaq:PACB) today announced that obtaining microbial genomes with high accuracy and contiguity has become faster and more affordable thanks to new multiplexing tools it will feature at the upcoming American Society for Microbiology (ASM) annual meeting in Atlanta.

The increased throughput of the PacBio® Sequel® System enables multiple microbes to be sequenced on a single SMRT® Cell in a single day, greatly increasing throughput and reducing costs per genome assembly. This multiplexing can be readily achieved by incorporating a unique barcode for each microbe into the SMRTbell® adapters after shearing genomic DNA using a streamlined library construction process. Incorporating a barcode without the requirement for PCR amplification preserves important epigenetic information.

"A comprehensive view of the bacterial genome, including genes, regulatory regions, IS elements, phage integration sites, and base modifications is vital to understanding key traits such as antibiotic resistance, virulence, and metabolism. Single Molecule, Real-Time Sequencing technology provides complete genomes, often assembled into a single contig," said Jonas Korlach, Chief Scientific Officer of Pacific Biosciences. "We are looking forward to updating the community on our recently launched microbial multiplexing workflow, which incorporates two new validated barcoded adapter kits and leverages other advancements with Sequel Binding/Sequencing Kit 2.1 and SMRT Link v5.1.0."

Key benefits of the [streamlined workflow](#) — from library preparation to genome assembly — include cost reduction through multiplexing, faster time to results, and advanced genome assembly parameters optimized for microbial genomes.

PacBio's participation in [a historic project](#) to sequence 3,000 important strains of bacteria housed at the UK's National Collection of Type Cultures (NCTC) will also be highlighted. In partnership with the Wellcome Sanger Institute, the NCTC created new assemblies of historic and modern bacteria DNA using PacBio technology, including deadly strains of plague, dysentery and cholera.

Scientific Program Highlights

Scientific advances enabled by PacBio long-read sequencing technology will be showcased in [more than 25 posters and presentations](#) spanning basic molecular biology and physiology, antimicrobial agents and resistance, environmental science, ecology and evolution, and clinical and public health microbiology.

Highlights include:

- An update on the recently completed NCTC 3000 collaboration, "NCTC 3000: The World's Largest Collection of Bacterial Reference Genomes", presented by Sarah Alexander of Public Health England, on Friday, June 8, at 11 a.m.
- A poster, "*Acinetobacter baumannii* as a Pathogen of War: New Insights from Whole Genome Sequencing", presented by Erik Snesrud of the Walter Reed Army Institute of Research (WRAIR), on Saturday, June 9, at 11 a.m.
- A session on Evolutionary Histories of Microbial Genomes, featuring the talk "Chromosome Rearrangement, Gene Amplification, and Insertion Sequence Elements in the Genome Evolution of *Bordetella pertussis* and the Genus *Bordetella*" by Michael Weigand of the CDC, on Saturday, June 9 at 11 a.m.
- A rapid-fire presentation, "Microbe, Know Thy Host," featuring a presentation about an award-winning abstract, "Clonal Evolution and Genomic Diversification of *Bordetella hinzii* in an Immunocompromised Host," by Adrien Launay of the NIH, on Saturday, June 9, at 1:45 p.m.

PacBio Principal Scientist Cheryl Heiner will present a poster, "Single Chromosomal Genome Assemblies on the Sequel System with Circulomics High Molecular Weight DNA Extraction for Microbes," on Saturday, June 9, at 11 a.m.

SMRT Grant

ASM meeting attendees and other interested scientists can apply for free SMRT Sequencing and bioinformatics analysis through the annual Microbial Genomics SMRT Grant Program, sponsored in partnership with the University of Maryland's Institute for Genome Sciences, one of four Certified Service Providers that will be represented at the conference (booth #3224). Others include: GENEWIZ (booth #1302), MacroGen (booth #1521) and RTL Genomics (booth #3123). PacBio will be exhibiting at booth #3125.

More information is available at <https://www.pacb.com/smart-science/smart-grant>

About Pacific Biosciences

Pacific Biosciences of California, Inc. (NASDAQ:PACB) offers sequencing systems to help scientists resolve genetically complex problems. Based on its novel Single Molecule, Real-Time (SMRT®) technology, Pacific Biosciences' products enable: *de novo* genome assembly to finish genomes in order to more fully identify, annotate and decipher genomic structures; full-length transcript analysis to improve annotations in reference genomes, characterize alternatively spliced isoforms in important gene families, and find novel genes; targeted sequencing to more comprehensively characterize genetic variations; and real-time kinetic information for epigenome characterization. Pacific Biosciences' technology provides high accuracy, ultra-long reads, uniform coverage, and the ability to simultaneously detect epigenetic changes. PacBio® sequencing systems, including consumables and software, provide a simple, fast, end-to-end workflow for SMRT Sequencing. More information is available at www.pacb.com.

Forward-Looking Statements

All statements in this press release that are not historical are forward-looking statements, including, among other things, statements relating to the suitability or utility of methods or products for particular applications, future availability, uses, quality or performance of, or benefits of using, products or technologies, and other future events. You should not place undue reliance on forward-looking statements because they involve known and unknown risks, uncertainties, changes in circumstances and other factors that are, in some cases, beyond Pacific Biosciences' control and could cause actual results to differ materially from the information expressed or implied by forward-looking statements made in this press release. Factors that could materially affect actual results can be found in Pacific Biosciences' most recent filings with the Securities and Exchange Commission, including Pacific Biosciences' most recent reports on Forms 8-K, 10-K and 10-Q, and include those listed under the caption "Risk Factors."

Pacific Biosciences undertakes no obligation to revise or update information in this press release to reflect events or circumstances in the future, even if new information becomes available.

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