

Pacific Biosciences Releases Next Generation Chemistry and Software for PacBio® RS DNA Sequencing System

Fifty Presentations and Posters Will Describe Results Generated with Single Molecule Real-Time Technology at This Week's AGBT Conference

MENLO PARK, Calif.--(BUSINESS WIRE)-- Pacific Biosciences of California, Inc. (NASDAQ: PACB), provider of Single Molecule Real Time (SMRT®) sequencing products, today announced it has released a major upgrade to its PacBio® RS system, referred to as "C2", including new chemistry, enhanced SMRT Cells and upgraded software, which together provide customers with significant performance increases for DNA sequencing. The company and numerous customers will discuss their progress with the platform through a total of 50 presentations and posters at the 2012 Advances in Genome Biology & Technology (AGBT) meeting this week in Marco Island, Fla.

The PacBio RS is a revolutionary DNA sequencing system that reveals new biological insights by incorporating novel, single molecule sequencing techniques, advanced analytics, and long read lengths. Compared with the C1 versions launched with the system in April 2011, the PacBio C2 chemistry and software provide approximately:

- 2x increase in average read length;
- 3-4x improvement in mappable data per SMRT Cell;
- 50-80% reduction in input DNA required; and
- Consensus accuracy of Q50 (99.999%) at substantially lower coverage.

"The changes we've made with this upgrade enable significant performance increases and lay the foundation for ongoing enhancements to the PacBio RS," said Mike Hunkapiller, Ph.D., Chairman and CEO of Pacific Biosciences. "We're very proud of how far we've come in the nine months since we first released the product commercially, and even more proud of our customers' achievements, many of which will be highlighted this week at AGBT."

The Wellcome Trust Sanger Institute and The Institute for Genome Sciences (IGS) at the University of Maryland School of Medicine are among the institutions that had early access to a preliminary version of the new chemistry.

"The Sanger Institute has seen significant improvements in performance compared to C1, enhancing our research projects in the areas of *de novo* genome assembly, sequencing through repetitive elements, enabling coverage of regions with extreme base composition, and improving genome assemblies," said Harold Swerdlow, Ph.D., Head of Research and Development at the Wellcome Trust Sanger Institute.

Luke Tallon, Scientific Director of the Genomics Resource Center at IGS added: "Early access to the new chemistry has resulted in significantly improved read lengths compared to the original C1 chemistry. These longer reads have enhanced our *de novo* genome assembly of microbial genomes when combined with short-read data. The longer read lengths have also increased our ability to generate higher-accuracy circular consensus reads."

The latest generation of SMRT Cells is more robust due to an improved manufacturing process, and the PacBio RS software has been enhanced for improved reliability and greater performance. To date, Pacific Biosciences has developed two whole product solutions that leverage the capabilities of the PacBio RS system to uniquely enable key customer applications: 1) *de novo* whole genome assembly and 2) targeted sequencing. As an example, the SMRT Analysis software incorporates [The Genome Analysis Toolkit](#) (GATK) developed by the Broad Institute. This provides a streamlined pipeline for variant analysis for targeted sequencing.

This week's AGBT conference will feature a total of 35 presentations and posters from PacBio customers, largely highlighting the two key applications for the system. Scientists from PacBio will also present a total of 15 presentations and posters about the technology. Details are available at www.pacb.com/agbt2012.

For more information about Pacific Biosciences, please visit www.pacb.com. You can also follow the company on Twitter www.twitter.com/pacbio.

About Pacific Biosciences, Inc.

Pacific Biosciences' mission is to transform the way humankind acquires, processes and interprets data from living systems through the design, development and commercialization of innovative tools for biological research. The company has developed a novel approach to studying the synthesis and regulation of DNA, RNA and proteins. Combining recent advances in nanofabrication, biochemistry, molecular biology, surface chemistry and optics, Pacific Biosciences has created a powerful technology platform called single molecule, real-time, or SMRT[®], technology. SMRT technology enables real-time analysis of biomolecules with single molecule resolution, which has the potential to transform the understanding of biological systems by providing a window into these systems that has not previously been open for scientific study.

Forward-Looking Statements

This press release contains forward-looking statements. Forward-looking statements may contain words such as "believe," "may," "estimate," "anticipate," "continue," "intend," "expect," "plan," the negative of these terms, or other similar expressions, and include the assumptions that underlie such statements. Such statements include, but are not limited to, statements regarding the Company's SMRT technology. These statements are subject to known and unknown risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such statements, including but not limited to risks discussed from time to time in documents Pacific Biosciences of California, Inc. has filed with the Securities and Exchange Commission, including the risks identified under the section captioned "Risk Factors" in its recently filed Quarterly Report on Form 10-Q. All forward-looking statements are based on estimates, projections and assumptions as of the date hereof. Pacific Biosciences undertakes no obligation to update any forward-looking statements.

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