



## Pacific Biosciences Announces Issuance of U.S. Patent for Concatemer Sequencing

March 13, 2018

MENLO PARK, Calif., March 13, 2018 (GLOBE NEWSWIRE) -- Pacific Biosciences of California, Inc. (Nasdaq:PACB), the leader in long-read, high-resolution sequencing, today announced that the U.S. Patent and Trademark Office ("USPTO") has issued U.S. Patent No. 9,910,956 (the "956 Patent"), entitled "Sequencing using concatemers of copies of sense and antisense strands." The 956 Patent was issued on March 6, 2018, and covers novel methods for single molecule sequencing of concatemers having complementary sense and antisense regions of a nucleic acid sample, including such concatemers generated from a rolling circle amplification reaction.

The methods of the 956 Patent represent an alternate approach for achieving higher accuracy in single molecule sequencing processes, including those performed using a nanopore sensor, and are related to Pacific Biosciences' unique [Circular Consensus Sequencing \(CCS\)](#) approach for generating high intra-molecular consensus.

"We are pleased that the USPTO has recognized Pacific Biosciences' innovation with this patent," said Dr. Robert Reamey, Vice President of Intellectual Property at Pacific Biosciences. With 274 issued U.S. patents and 188 granted foreign patents owned or exclusively licensed by Pacific Biosciences to date, including 92 U.S. and foreign patents that have issued over the past year, the issuance of this patent further strengthens the company's extensive patent portfolio in the field of single molecule, long-read sequencing, which includes SMRT® Sequencing as well as various nanopore approaches."

"Our CCS sequencing mode, which can achieve very high consensus accuracy on individual molecules, is exclusively available on PacBio sequencing platforms such as the [Sequel® System](#), and is useful for [characterizing complex populations](#) of closely related DNA molecules within a sample, such as those found in viral populations, microbial communities, and somatic variants in cancer, with single molecule resolution," said Dr. Michael W. Hunkapiller, Chief Executive Officer of Pacific Biosciences. "As a pioneer in the field, we have also developed (and been successful in obtaining patent protection for) single molecule sequencing approaches that go beyond our current systems. That being said, even where others have attempted to combine our innovations with a competitor's product, systematic errors have tended to limit them from reaching the level of accuracy that can be achieved using PacBio systems."

### 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](http://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 validity or enforceability of patents or other forms of intellectual property, the suitability 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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