



## SARS-CoV-2 Viral Genome Sequencing Data Presented from Research Using Pacific Biosciences Technology

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### **Presentation at the American Society for Microbiology NGS Conference highlights utility of PacBio's highly accurate long-read sequencing platform in disease surveillance**

MENLO PARK, Calif., Dec. 16, 2020 (GLOBE NEWSWIRE) -- Pacific Biosciences of California, Inc. (Nasdaq:PACB), a leading provider of high-quality sequencing of genomes, transcriptomes and epigenomes, today announced initial findings from the company's research collaboration with Labcorp that is focused on SARS-CoV-2 and the related immune response to COVID-19.

Announced in [April 2020](#), PacBio and Labcorp are collaborating to develop a production-scale assay for sequencing the complete genome of thousands of SARS-CoV-2 viruses from de-identified positive patient samples using the PacBio Sequel<sup>®</sup> II System. Labcorp is currently using this information to shed light on viral evolution during the early pandemic, mutations arising in different geographic regions, and the implications for disease severity and outcomes.

"COVID-19 will continue to be an area of significant clinical research in the months and years to come as we work toward gaining a more detailed understanding of this complex disease and the human host's immune response," said Jonas Korlach, PhD, Chief Scientific Officer at PacBio. "Labcorp has demonstrated how production-scale assays, developed for the PacBio platform, can enable near real-time sequencing of samples to enhance pathogen surveillance and better inform response. We look forward to expanding our collaborations with leading clinical organizations like Labcorp that are focused on the development of new tools for monitoring, diagnosing, and treating infectious diseases."

Utilizing PacBio's Single Molecule, Real-Time (SMRT<sup>®</sup>) Sequencing platform, Labcorp has generated more than 6,500 high-resolution complete genomes from people infected with the SARS-CoV-2 virus who were sampled in the United States during the early phase of the pandemic (approximately March - May 2020). The viral sequencing assay developed by Labcorp makes use of 1.2 kb overlapping amplicons multiplexed at a cost-effective level of 600-1,000 patient samples per SMRT Cell.

The highly accurate long-read sequencing data generated by the Sequel II System has been integrated with additional phenotypic information collected by Labcorp to highlight the role of geography, demographics, and temporal details. As vaccines are widely implemented and immune pressure is increased, data may be useful in the surveillance of new viral mutations as they appear in the population.

Future research initiatives planned include the sequencing of some 20,000 archived samples from before March 15, 2020 which could be used to identify when and where specific genotypes entered the United States and establish a baseline for tracking viral evolution over time. Labcorp also hopes to perform follow-on sequencing of full-length HLA (Human Leukocyte Antigen) genes from the same samples to further examine immune response to COVID-19.

SMRT Sequencing technology is uniquely able to generate HiFi reads, which are both highly accurate and long. These qualities are well-suited for applications like viral sequencing, which requires the ability to distinguish variants within complex populations of closely related virions that may differ by very few single nucleotide variants across an entire viral genome or viral gene. For example, with the release of new therapeutics and the imminent release of several vaccines, scientists will want to monitor how SARS-CoV-2 continues to evolve within hosts, over time in a community, and across geographic regions.

Initial findings from this collaboration were presented by Michael Levandoski, PhD, Research Scientist, at Labcorp on December 8, 2020 during the American Society for Microbiology NGS Conference in a presentation titled, "[Geographic and Temporal Mapping of the SARS-CoV-2 Pandemic in the United States](#)." More information can be found at: <https://asm.org/Events/ASM-NGS/Scientific-Program>.

### **About Pacific Biosciences**

Pacific Biosciences of California, Inc. (NASDAQ: PACB) is empowering life scientists with highly accurate long-read sequencing. The company's innovative instruments are based on Single Molecule, Real-Time (SMRT<sup>®</sup>) Sequencing technology, which delivers a comprehensive view of genomes, transcriptomes, and epigenomes, enabling access to the full spectrum of genetic variation in any organism. Cited in thousands of peer-reviewed publications, PacBio<sup>®</sup> sequencing systems are in use by scientists around the world to drive discovery in human biomedical research, plant and animal sciences, and microbiology. For more information please visit [www.pacb.com](http://www.pacb.com) and follow [@PacBio](#).

*PacBio products are for Research Use Only. Not for use in diagnostic procedures.*

### **Forward-Looking Statements**

All statements in this press release that are not historical are forward-looking statements, including, among other things, statements relating to market leadership, uses, accuracy, quality or performance of, or benefits of using, our products or technologies, including SMRT sequencing technology, the expected benefits, suitability or utility of our methods, products or technologies for particular applications or projects, including for sequencing of viral samples for mutation surveillance, baseline tracking, and immune responses, COVID-19 as an area of area of continued significant clinical research, and the ability of the Company to be successful in reaching its technological and commercial potential, 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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