



PacBio's New HiFiViral Surveillance Kit Performance is Not Impacted by Omicron Mutations, Delivering Complete SARS-CoV-2 Genomes for All Circulating Variants

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HiFiViral Solution helps to accelerate understanding of the Omicron variant, providing information that is important to public health response

MENLO PARK, Calif., Dec. 28, 2021 (GLOBE NEWSWIRE) -- [PacBio](#) (Nasdaq: PACB), a leading provider of high-quality, highly accurate, long-read sequencing technology, today announced that its new HiFiViral SARS-CoV-2 solution has successfully sequenced and captured the entire genome of the SARS-CoV-2 Omicron variant lineage. The solution gives researchers around the globe a powerful tool to access complete genomic information on Omicron, without gaps in sequencing information that can result from mutations that occur along the SARS-CoV-2 virus genome.

"Detecting the Omicron lineage is simply not enough to understand the full impact of this variant on public health," said Christian Henry, Chief Executive Officer and President of PacBio. "Having a complete picture of the Omicron mutations will help public health entities better answer critical questions about how similar Omicron is to other variants, its transmissibility, spread, implications for vaccine breakthrough, and potential occurrences of additional genome changes."

HiFiViral uses molecular inversion probes, a differentiated viral enrichment approach that provides deep, redundant coverage across the entire SARS-CoV-2 genome for robust detection of all existing variants, and of new variants as they emerge. By contrast, current PCR amplicon-based methods, whether used by short-read or other long-read technologies, can be affected by new variants that result in gaps in the genome sequence, requiring periodic updates and revalidation to keep pace with the evolving virus.

Several customers have validated the HiFiViral SARS-CoV-2 kit and have confirmed it performs well on Omicron variants. This week, scientists at [Inqaba Biotec](#) in South Africa successfully sequenced 35 Omicron samples and obtained >95% coverage for 29 samples. These results were consistent with the performance of the HiFiViral SARS-CoV-2 kit on Delta and other variants. Most notably, there were no systematic gaps in the mutation-rich spike region, confirming *in silico* predictions that the unique, densely tiled probe design of the HiFiViral SARS-CoV-2 kit is robust to highly divergent variant lineages.

"We were able to successfully sequence Omicron in our lab and reliably get complete coverage of the entire genome, including the highly mutated gene responsible for the Spike protein. It's important to have this level of resolution to understand the full impact of this variant. The workflow was also very simple which allowed us to process, analyze, and turn around results in a rapid and efficient way that we couldn't get from PCR-amplicon based methods," said Dr. Hamilton Ganesan, Bioinformatics Manager at Inqaba Biotec.

The HiFiViral kit provides a powerful tool to scientists around the world who are racing to understand the impact of new variants. In addition to providing better data to researchers, the kit's workflow requires less time and labor, and substantially fewer plastics and other consumables than other technologies - reducing potential supply chain bottlenecks that have challenged surveillance laboratories.

"The [HiFiViral kit](#) is available worldwide and represents a major step forward in helping labs fight the COVID-19 pandemic," Henry said. "We believe it will be essential in future-proofing labs against new variants."

About PacBio

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®) 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® 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 and follow [@PacBio](#).

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

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