PacBio and Covaris Announce Joint Workflow Enabling HiFi Long-Read Sequencing of FFPE Tumor Samples

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New extraction-to-library prep workflow enables highly accurate long-read sequencing from archived clinical samples, expanding opportunities in cancer research

MENLO PARK, Calif. and WOBURN, Mass., April 15, 2026 (GLOBE NEWSWIRE) -- PacBio (NASDAQ: PACB), a leading developer of high-quality, highly accurate sequencing solutions, and Covaris, a PerkinElmer company and leader in sample preparation technologies, today announced a joint workflow has been developed for robust HiFi sequencing of formalin-fixed, paraffin-embedded (FFPE) tissue samples. The protocol will be formally presented at the upcoming American Association for Cancer Research (AACR) Annual Meeting. This solution integrates Covaris' truXTRAC ® FFPE extraction technology with PacBio's Kinnex™ library preparation and sequencing on the Revio system, delivering a streamlined workflow from sample to sequencing.

FFPE samples are among the most abundant and clinically relevant sources of biological material, particularly in oncology research. However, DNA damage and fragmentation caused by fixation have historically limited their compatibility with long-read sequencing. The combined Covaris–PacBio workflow is designed to help address these challenges, enabling researchers to generate high-quality HiFi sequencing data from archived tumor samples.

The workflow leverages Covaris' Adaptive Focused Acoustics ® (AFA)-based truXTRAC FFPE extraction method to recover longer DNA fragments, up to 5,000 base pairs, from FFPE tissues. PacBio's Kinnex library preparation concatenates these fragments into longer molecules suitable for HiFi sequencing, improving efficiency and data quality.

In studies across brain, kidney, and uterine tumor samples, the workflow produced more than 100 million HiFi reads per sample, with mean read lengths of 750–1,500 base pairs. The data enabled detection of over 11,000 structural variants and more than 5 million small variants per sample, with approximately 60% phased into haplotypes. By comparison, short-read sequencing of FFPE tissue typically detects 3,000–7,000 structural variants per sample, less than half the yield achieved here, due to limitations in spanning complex rearrangements and repetitive regions. Notably, while short-read approaches produce comparable small variant counts, their shorter read lengths generally limit the ability to directly phase variants into haplotypes, often requiring statistical inference or specialized library methods. As a result, the approximately 60% direct phasing achieved with this workflow represents a distinctive and potentially clinically meaningful advantage of long-read HiFi sequencing.

"This collaboration reflects our shared commitment to advancing genomic research through innovative, integrated solutions," said Annemarie Watson, CEO of Covaris. "By combining our proven AFA-based extraction technology with PacBio's sequencing expertise, we are enabling researchers to unlock valuable insights from even the most challenging FFPE samples, helping accelerate discoveries in cancer biology and beyond."

"What's so exciting about this workflow is that it opens up vast archives of banked samples for HiFi sequencing on the Revio and Vega systems," said Dave Miller, Vice President of Global Marketing at PacBio. "With SPRQ-Nx enabling a significantly lower cost per genome, clinical researchers can revisit these samples to uncover structural variation, phase mutations, and resolve complex genomic regions that have remained out of reach with short-read sequencing, ultimately accelerating progress in oncology."

The combined workflow demonstrates consistent performance across diverse tissue types and varying DNA quality, enabling comprehensive genomic profiling, including structural variant detection and somatic mutation phasing. By unlocking FFPE samples for HiFi sequencing, PacBio and Covaris are helping transform underutilized archives into powerful datasets: enriching the context and scale of data available for AI-driven discovery and enabling new biological findings that were previously out of reach.

About PacBio

PacBio (NASDAQ: PACB) is a premier life science technology company that designs, develops, and manufactures advanced sequencing solutions to help scientists and clinical researchers resolve genetically complex problems. Our products and technologies, which include our HiFi long-read sequencing, address solutions across a broad set of research applications including human germline sequencing, plant and animal sciences, infectious disease and microbiology, oncology, and other emerging applications. 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.

About Covaris, LLC

Covaris, a PerkinElmer company, develops, manufactures, and markets instruments, consumables, and reagents used in pre-analytical sample preparation for genomic and proteomic analysis to help accelerate the pace of research and life science innovations. Using proprietary technologies including focused acoustic energy, Covaris' tools achieve highly accurate and reproducible results with the goal of empowering customers to make new discoveries, develop new assays and improve bioanalytical results. Some of the non-contact applications include faster automated DNA fragmentation, cell lysis, accelerated binding partner mixing, bead resuspension, and compound formulation. Additional information about Covaris, LLC is available at www.covaris.com.

Forward-Looking Statements

This press release may contain "forward-looking statements" within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, and the U.S. Private Securities Litigation Reform Act of 1995. All statements other than statements of historical fact are forward-looking statements, including statements relating to the availability, uses, accuracy, advantages, quality or performance of, or benefits of using, or expected benefits of

using, PacBio products or technologies, including in connection with the FFPE extraction workflow using Covaris' truXTRAC technology and PacBio's Kinnex library preparation technology to, among other things, address challenges in recovering longer DNA fragments from FFPE samples; enabling researchers to gain insights from the large number of banked FFEP samples, including from those that have less than desirable DNA quality, and accelerate discoveries in cancer and other areas; resolving complex genomic regions from FFPE samples that are out of reach using short-read technologies; enriching the context and scale of data available for AI-driven discovery and enabling new biological findings that were previously out of reach; and other future events. You should not place undue reliance on forward-looking statements because they are subject to assumptions, risks, and uncertainties and could cause actual outcomes and results to differ materially from currently anticipated results, including, challenges inherent in sequencing a large number of genomes from FFPE samples, the difficulty of generating discoveries in new areas of research or with respect AI model training; potential product performance and quality issues; rapidly changing technologies and extensive competition in, and potential FDA regulatory issues relating to, genomic sequencing; unanticipated increases in costs or expenses; interruptions or delays in the supply of components or materials for, or manufacturing of, PacBio products and products under development; third-party claims alleging infringement of patents and proprietary rights or seeking to invalidate PacBio's patents or proprietary rights, among others. Additional factors that could materially affect actual results can be found in PacBio's most recent filings with the Securities and Exchange Commission, including PacBio's most recent reports on Forms 8-K, 10-K, and 10-Q, and include those listed under the caption "Risk Factors." These forward-looking statements are based on current expectations and speak only as of the date hereof; except as required by law, PacBio disclaims any obligation to revise or update these forward-looking statements to reflect events or circumstances in the future, even if new information becomes available.

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