



PacBio and Twist Bioscience Deliver Initial Portfolio of Target Enrichment Panels for HiFi Sequencing

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Alliance panels include a 50-gene pharmacogenomics panel and a nearly 400-gene panel of challenging, medically relevant "dark genes" developed in collaboration with leading institutions

MENLO PARK, Calif. and SOUTH SAN FRANCISCO, Oct. 19, 2022 /PRNewswire/ -- [PacBio](#) (NASDAQ: [PACB](#)), a leading developer of high-quality, highly accurate sequencing solutions, and [Twist Bioscience Corporation](#), a company enabling customers to succeed through its offering of high-quality synthetic DNA using its silicon platform, today announced the availability of an initial portfolio of off-the-shelf long-read gene panels. These fixed [Twist Alliance](#) panels are designed to capture target regions in a cost-effective and high throughput manner. Customers will also have the ability to develop a fully customizable and scalable panel of their own design for sequencing with PacBio HiFi reads.

"Our customers have been asking for a way to focus their long-read experiments and maximize throughput," said Christian Henry, President and Chief Executive Officer of PacBio. "Through this collaboration with Twist we have developed off-the-shelf products that we believe have delivered on that capability. Collaborations like this help us quickly bring new solutions to our customers and advance our mission to enable the promise of genomics to better human health."

"These panels developed with PacBio enable customers to sequence regions of the genome that can help researchers study the role of genetics in drug response and uncover regions that are difficult to read, such as 'dark genes' and genes associated with neurodegenerative and cardiovascular diseases. Providing scientists with NGS tools enables them to further their research and gain a better understanding of the role that certain genes play in diseases, which could one day be translated to breakthroughs for patients," said Emily M. Leproust, Ph.D., CEO and co-founder of Twist Bioscience. "While these are long-read panels, Twist Alliance panels are developed in partnership with experts in their field to further research and can be made to be compatible with any sequencing technology."

PacBio and Twist collaborated with researchers at leading institutions to develop two Alliance panels. One panel includes coverage of nearly 400 challenging medically relevant genes, and another was designed to capture 50 pharmacogenomic genes. Many of the challenging genes are in so-called "dark regions" of the human genome that are difficult to sequence or accurately map using standard short-read sequencing technologies. The dark gene panel was developed with researchers at a leading institution to interrogate and detect nearly 400 hard-to-sequence genes of medical significance, such as *SMN1* and *SMN2*, *GBA*, and *LPA*, which are associated with Spinal Muscular Atrophy, Alzheimer's, and cardiovascular disease, respectively. The pharmacogenomics panel includes genes with high levels of evidence for implementation of prescribing guidelines.

In addition to the new capabilities provided by the long-read panels, PacBio is also collaborating with Twist to demonstrate the high level of accuracy that can be achieved using sequencing by binding (SBB) chemistry. By nature, SBB excels at correctly resolving homopolymer runs and repetitive regions. When applied to whole-exome sequencing, it has the potential to provide the most complete coverage of both uncomplicated and traditionally difficult to sequence genes which could streamline workflows by reducing the need for orthogonal assays.

About Twist Alliance Panels

In partnership with leading research institutions from around the world, Twist has curated a collection of high-quality target enrichment panels for applications ranging from carrier screening to cancer diagnostics and whole exome sequencing. The Twist Alliance Panels combine the strengths of precise, highly uniform oligonucleotide synthesis with the specialty expertise of leading scientific research partners.

Well designed, custom target enrichment panels enable increased sequencing depth on target genes while reducing overall sequencing. This allows for more sensitive detection of target sequences and higher confidence variant detection.

About PacBio

PacBio (NASDAQ: [PACB](#)) is a premier life science technology company that is designing, developing and manufacturing advanced sequencing solutions to help scientists and clinical researchers resolve genetically complex problems. Our products and technology under development stem from two highly differentiated core technologies focused on accuracy, quality and completeness which include our existing HiFi long read sequencing and our emerging SBB® short read sequencing technologies. Our products 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 Twist Bioscience Corporation

Twist Bioscience is a leading and rapidly growing synthetic biology and genomics company that has developed a disruptive DNA synthesis platform to industrialize the engineering of biology. The core of the platform is a proprietary technology that pioneers a new method of manufacturing synthetic DNA by "writing" DNA on a silicon chip. Twist is leveraging its unique technology to manufacture a broad range of synthetic DNA-based products, including synthetic genes, tools for next-generation sequencing (NGS) preparation, and antibody libraries for drug discovery and development. Twist is also pursuing longer-term opportunities in digital data storage in DNA and biologics drug discovery. Twist makes products for use across many industries including healthcare, industrial chemicals, agriculture and academic research.

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PacBio Forward-Looking Statements

This press release contains "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 contained herein are forward-looking statements, including statements relating to future availability, uses, accuracy, advantages, quality or performance of, or benefits or expected benefits of using, PacBio products or technologies and the Twist Alliance panels, including in connection with the ability to capture target regions of the genome in a cost-effective and high throughput manner; the ability of customers to customize and scale panels of their own design, sequence dark regions of the genome that may be associated with certain diseases and sequence certain pharmacogenomic genes; the potential breakthroughs for patients that could result from the use of Twist Alliance panels and PacBio technology; collaborations to demonstrate SBB accuracy; potential to provide the most complete coverage of certain genes; potential to streamline workflows; and other forward-looking statements. Readers are cautioned not to place undue reliance on these forward-looking statements and any such forward-looking statements are qualified in their entirety by reference to the following cautionary statements. All forward-looking statements speak only as of the date of this press release and are based on current expectations and involve a number of assumptions, risks and uncertainties that could cause the actual results to differ materially from such forward-looking statements. Readers are strongly encouraged to read the full cautionary statements contained in PacBio's filings with the Securities and Exchange Commission, including the risks set forth in PacBio's Forms 8-K, 10-K, and 10-Q. PacBio disclaims any obligation to update or revise any forward-looking statements.

Twist Bioscience Legal Notice Regarding Forward-Looking Statements

This press release contains forward-looking statements. All statements other than statements of historical facts contained herein, including without limitation, statements regarding the capability of the Twist Alliance panels developed with PacBio to enable customers to sequence challenging genes, are forward-looking statements reflecting the current beliefs and expectations of management made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements involve known and unknown risks, uncertainties, and other important factors that may cause Twist Bioscience's actual results, performance, or achievements to be materially different from any future results, performance, or achievements expressed or implied by the forward-looking statements. Such risks and uncertainties include, among others, the risks and uncertainties of the ability to attract new customers and retain and grow sales from existing customers; risks and uncertainties of rapidly changing technologies and extensive competition in synthetic biology could make the products Twist Bioscience is developing obsolete or non-competitive; uncertainties of the retention of a significant customer; risks of third-party claims alleging infringement of patents and proprietary rights or seeking to invalidate Twist Bioscience's patents or proprietary rights; and the risk that Twist Bioscience's proprietary rights may be insufficient to protect its technologies. For a further description of the risks and uncertainties that could cause actual results to differ from those expressed in these forward-looking statements, as well as risks relating to Twist Bioscience's business in general, see Twist Bioscience's risk factors set forth in Twist Bioscience's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on August 8, 2022 and subsequent filings with the SEC. Any forward-looking statements contained in this press release speak only as of the date hereof, and Twist Bioscience specifically disclaims any obligation to update any forward-looking statement, whether as a result of new information, future events or otherwise.

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