



Singapore's National Precision Medicine (NPM) programme will partner with PacBio to propel HiFi Sequencing in Southeast Asia

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This joint effort will harness PacBio's state-of-the-art HiFi sequencing technology to offer profound insights into genetic diversity, disease mechanisms, and clinical diagnoses within Singapore's multi-ethnic population

SINGAPORE, Aug. 05, 2024 (GLOBE NEWSWIRE) -- PacBio (NASDAQ: PACB), a leading developer of high-quality, highly accurate sequencing solutions, announced that Precision Health Research, Singapore (PRECISE) has chosen the Revio HiFi sequencing system for its Long-Read Sequencing Flagship Project. This initiative aims to generate the largest long-read sequencing dataset in Southeast Asia, marking a significant advancement for precision medicine in Singapore.

As part of Singapore's three-phase National Precision Medicine (NPM) programme, the current phase of the NPM aims to transform healthcare in Singapore and improve patient outcomes through new insights into the Asian genome. Hence, this collaboration will harness PacBio's state-of-the-art HiFi sequencing technology to offer profound insights into genetic diversity, disease mechanisms, and clinical diagnoses within Singapore's multi-ethnic population.

This partnership highlights the critical role of PacBio's HiFi sequencing technology in advancing precision medicine. Beyond the capabilities of traditional short-read sequencing technologies, PacBio's long-read sequencing provides comprehensive genomic coverage, enabling the detection of large structural variations and DNA methylation, providing a more complete picture of the genome. This multi-omics approach, combining whole genome sequencing (WGS), RNA full-length sequencing, fibre sequencing, and methylation analysis, positions PacBio as an essential contributor to the success of this joint effort with PRECISE.

"I am delighted that PRECISE has selected our Revio system for their extensive, flagship long-read sequencing project in Singapore," said Christian Henry, President and Chief Executive Officer of PacBio. "PRECISE chose PacBio HiFi technology for its capacity to deliver complete and accurate genomes. This project exemplifies Revio's unique ability to provide differentiated solutions for large-scale, multi-thousand-sample, whole genome sequencing projects."

PacBio's joint effort with PRECISE is set to elevate precision medicine in Singapore, leveraging highly-accurate long-read sequencing to drive scientific breakthroughs and enhance clinical outcomes. Through significant product contributions, investment in local expertise, and a comprehensive data platform, PacBio is dedicated to the success of this transformative initiative.

Key highlights of the partnership

Comprehensive Long-Read Genomic Data

PacBio will generate high-quality phased methylome and genomic information for a multi-thousand-sample whole genomes sequencing project, including:

- 60x HiFi depth for Pan-Asian reference genomes.
- 20x HiFi depth for multi-omics analysis.
- 30x HiFi depth for unresolved and research cases in cancer and rare diseases.

Advanced Sequencing Infrastructure

PacBio will establish advanced sequencing and data analysis pipelines in Singapore, including a centralised library preparation facility and sequencing laboratory for high throughput production.

Appointed Service Provider

Macrogen Asia Pacific Pte Ltd, the first CAP-accredited service provider in Singapore for Whole Genome Sequencing (WGS), will execute the PacBio long-read sequencing production.

Data Integration and Secure Access

PacBio will utilise AWS cloud storage and workflow capabilities to ensure secure and efficient data processing and delivery for PRECISE researchers and clinicians.

The comprehensive efforts outlined in this partnership underscore the commitment of both PacBio and PRECISE to pioneering advancements in genomic research and precision medicine. By combining cutting-edge technology, extensive genomic data, and dedicated local expertise, this joint effort is poised to deliver ground breaking discoveries that can help shape the future of healthcare in Singapore and beyond.

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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 stem from two highly differentiated core technologies focused on accuracy, quality and completeness which include our HiFi long-read sequencing and our 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 Precision Health Research, Singapore (PRECISE)

Precision Health Research, Singapore (PRECISE) is the central entity set up to coordinate a whole of Singapore effort to implement Phase II of Singapore's three-phase National Precision Medicine (NPM) programme.

NPM Phase II aims to transform healthcare in Singapore and improve patient outcomes through new insights into the Asian genome and data-driven healthcare solutions. In NPM Phase II, PRECISE will collaborate with Singapore research and clinical partners, including the Agency for Science, Technology and Research (A*STAR), Lee Kong Chian School of Medicine, National Healthcare Group, National University Health System, National University of Singapore, and SingHealth Duke-NUS Academic Medical Centre to study the genetic makeup of 100,000 healthy Singaporeans and specific patient cohorts. The genetic data will be integrated with detailed lifestyle, environmental, and clinical data to yield rich insights into factors that contribute to Asian diseases and conditions.

Additionally, NPM Phase II will enhance the breadth and depth of the Precision Medicine-related industry by attracting and anchoring overseas companies in Singapore, while yielding new opportunities for home-grown companies. To enhance and accelerate the precision medicine sector, PRECISE works in close collaboration with A*STAR, the Biomedical Sciences Industry Partnership Office, and the Economic Development Board to catalyse the next phase of growth for Singapore's healthcare and the biomedical technology industries.

PRECISE is a programme of the Consortium for Clinical Research and Innovation, Singapore (CRIS). PRECISE is supported by the National Research Foundation, Singapore (NRF) under the RIE2020 White Space (MOH-000588 and MOH-001264) and administered by the Singapore Ministry of Health through the National Medical Research Council (NMRC) Office, MOH Holdings Pte Ltd.

For more information, visit www.npm.sg

About Macrogen

Macrogen provides genomics services for research use, as well as clinical diagnostics worldwide, with laboratories in six countries and more than 18,000 customers in 153 countries. Their research services include Next Generation Sequencing, Capillary Electrophoresis Sequencing, Microarrays, Transgenic mice, and Oligonucleotide synthesis. Clinical services include hereditary cancer testing, somatic cancer panels, carrier testing, NIPT screening, clinical WGS, and clinical WES.

The laboratories in Singapore, USA, and Korea have received College of American Pathologists (CAP) accreditation. Macrogen's main laboratory in Korea also holds certifications from the Korean Institute of Genetic Testing Evaluation and the Korean Ministry of Food and Drug Safety for NGS Clinical Laboratory.

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 uses, coverage, advantages, quality or performance of, or benefits or expected benefits of using, PacBio products or technologies, including in connection with Novogene's anticipate use of Revio; 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, and the difficulty of generating discoveries across various areas of research; potential product performance and quality issues; third-party claims alleging infringement of patents and proprietary rights or seeking to invalidate PacBio's patents or proprietary rights; and other risks associated with international operations. 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.