

Tecan and PacBio: High Accuracy, Automated Long-read Sequencing to Accelerate Discovery in Genomics

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-- Tecan and PacBio are collaborating to automate genomics research, with a focus on high accuracy, long-read DNA sequencing. A new, automated workflow for medium and high



throughput DNA library prep – which combines Tecan’s DreamPrep® NGS Compact or DreamPrep NGS automation platforms with PacBio’s SMRT® library prep reagents – streamlines the path from sample to sequence. This automated application will enhance researchers' ability to analyze complex genomic variations with minimal hands-on time and additional benefits in cost, productivity, and consistency of results.

Long-read DNA sequencing has important applications in genetic diseases, evolutionary biology and overall understanding of genomic variability. Longer reads enable the detection of novel structural variants – such as insertions, deletions and inversions – and also generate better genome assemblies by over-spanning extended repetitive regions, including those associated with Huntington’s disease and Fragile X syndrome.

The quality of long-read DNA sequence data is heavily dependent on the chemistry used for library preparation. The high quality libraries prepared using Tecan’s DreamPrep NGS Compact workstation and PacBio’s SMRTbell® prep kit 3.0 reagents have outstanding read accuracy (99.9 percent for single molecules) across a wide range of fragment sizes, from thousands up to tens of thousands of base pairs. These HiFi® libraries can be sequenced directly using PacBio’s Sequel® and Revio™ sequencing platforms for genomic data generation.

“We’re excited about the partnership between Tecan and PacBio,” said Luca Vallengia, Senior Vice President of Lab Automation at Tecan. “The ability to automate high quality, sequence-ready library prep with minimal manual intervention will improve the reproducibility of long-read sequencing and further reduce the cost per sample. That means new opportunities to increase throughput and accelerate discovery in the life sciences.”

Amit Patel, Ecosystems Director at PacBio, added: “Long-read sequencing plays an important role

in generating contiguous, high quality genomes for haplotype phasing, structural variant detection, and de novo assemblies. We are delighted to collaborate with Tecan to automate our HiFi sequencing technology on the DreamPrep NGS Compact, benefitting customers from both companies.”

Download the [technical note](#) to learn more and gain access to preliminary data. More results will be shown in a posterior-updated version of the tech note.

About Tecan

Tecan (www.tecan.com) improves people’s lives and health by empowering customers to scale healthcare innovation globally from life science to the clinic. Tecan is a pioneer and global leader in laboratory automation. As an original equipment manufacturer (OEM), Tecan is also a leader in developing and manufacturing OEM instruments, components and medical devices that are then distributed by partner companies. Founded in Switzerland in 1980, the company has around 3,500 employees, with manufacturing, research and development sites in Europe, North America and Asia, and maintains a sales and service network in over 70 countries. In 2022, Tecan generated sales of CHF 1,144 million (USD 1,192 million; EUR 1,144 million). Registered shares of Tecan Group are traded on the SIX Swiss Exchange (TECN; ISIN CH0012100191).

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.

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