Media & Investor Release

Roche presents major advances for its sequencing by expansion technology[1], including a new GUINNESS WORLD RECORD™, at the ASHG conference 2025

- **Significant progress in bulk RNA sequencing, methylation mapping, multiomics integration, and spatial analyses unlocks research previously out of reach for traditional short read platforms.**
- **Leveraging Roche's SBX technology, Broad Clinical Labs achieved the new GUINNESS WORLD RECORD™ for fastest DNA sequencing technique in under four hours, in collaboration with Roche Sequencing Solutions and Boston Children's Hospital.**
- **Wellcome Sanger Institute joins a growing network of early collaborators using SBX technology, driving new insights in genomics research.**

Basel, 16 October 2025 - Roche (SIX: RO, ROG; OTCQX: RHHBY) presented major updates on its innovative sequencing by expansion (SBX) technology at the American Society of Human Genetics (ASHG) 2025 Annual Meeting in Boston, USA. Following its recent unveiling, SBX is already being recognized by early evaluators in the sequencing community for its combination of speed, flexibility, and longer reads, which significantly expands research possibilities.

"These advances reflect the strong momentum behind our innovative sequencing technology and its potential to transform genomic research and clinical applications," said Matt Sause, CEO of Roche Diagnostics. "By combining high throughput, speed and longer read lengths, the SBX technology has the potential to enable research and applications that were previously not feasible. Our collaborations with Broad Institute, the Wellcome Sanger Institute, and others, demonstrate the immense potential of the SBX technology to tackle some of biology's biggest challenges."

Breaking a GUINNESS WORLD RECORD™

The impact of the SBX technology was recognised when Broad Clinical Labs broke the **GUINNESS WORLD RECORD™** for the fastest DNA sequencing technique to date, using a human genome processed from a DNA sample to a final variant call file (VCF) in less than four hours. This milestone, achieved in collaboration with Roche Sequencing Solutions and Boston Children's Hospital, surpasses the previous benchmark of five hours and two minutes.

"Breaking the **GUINNESS WORLD RECORD** is a remarkable achievement," said Mark Kokoris, inventor of the SBX chemistry and Head of SBX Technology at Roche. "The true impact lies in

what this speed and accuracy mean for the scientific community and for deciphering complex diseases like cancer and neurodegenerative conditions."

Growing collaborations

At ASHG 2025, Roche also announced a new collaboration with the Wellcome Sanger Institute, marking the start of a multi-project evaluation of SBX's capabilities across a range of research applications. The Wellcome Sanger Institute is evaluating potential benefits from longer reads and very high throughput from the SBX technology for instance in Bulk RNA sequencing to explore previously undetectable features such as certain spliced Isoforms.

The Wellcome Sanger Institute partnership adds to existing collaborations that includes Hartwig Medical Foundation, Genentech, The University of Tokyo and others, as well as the Broad Institute where we previously announced a strategic collaboration to develop and pilot groundbreaking research applications.

Methylation mapping with SBX-Duplex

Roche has also made significant progress in methylation mapping – the process of identifying and analysing chemical modifications called methyl groups that are added to DNA. These modifications act like switches or dimmers, controlling whether genes are turned on, off, or somewhere in between. The research workflow combines SBX-Duplex, a methodology in which both strands of the target DNA are linked in a single read, with a high-fidelity methylation mapping method, TET-assisted pyridine borane sequencing (TAPS), a technology in development by Watchmaker Genomics.

This high efficiency intra-molecular consensus workflow can have significant advantages in research applications, including liquid biopsy-based cancer detection and identification of novel epigenetic biomarkers.

Spatial sequencing

At the University of Tokyo, researchers working in collaboration with Roche leveraged the speed and workflow adaptability of SBX in spatial sequencing analyses of banked lung cancer tissue with about 15 billion reads in just one hour. This approach allowed them to rapidly and accurately map gene expression within tissue samples at high resolution, providing critical insights into the dynamics of cells within a tumor microenvironment.

Target enrichment

Roche also demonstrated a target enrichment method using SBX-Simplex workflow that leverages Unique Molecular Identifiers (UMIs) to produce high throughput and high accuracy reads with very low inputs. This can potentially benefit Oncology research where high depth is typically required.

The above examples highlight SBX's potential to support multiomics research at scale, by combining the power of rapid sequencing with the ability to analyse multiple layers of biological information. Such breakthroughs are redefining how researchers approach disease biology and interpret the interplay between genetics, transcriptional activity, and epigenomic changes.

About Roche

Founded in 1896 in Basel, Switzerland, as one of the first industrial manufacturers of branded medicines, Roche has grown into the world's largest biotechnology company and the global leader in in-vitro diagnostics. The company pursues scientific excellence to discover and develop medicines and diagnostics for improving and saving the lives of people around the world. We are a pioneer in personalised healthcare and want to further transform how healthcare is delivered to have an even greater impact. To provide the best care for each person we partner with many stakeholders and combine our strengths in Diagnostics and Pharma with data insights from the clinical practice.

For over 125 years, sustainability has been an integral part of Roche's business. As a science-driven company, our greatest contribution to society is developing innovative medicines and diagnostics that help people live healthier lives. Roche is committed to the Science Based Targets initiative and the Sustainable Markets Initiative to achieve net zero by 2045.

Genentech, in the United States, is a wholly owned member of the Roche Group. Roche is the majority shareholder in Chugai Pharmaceutical, Japan.

For more information, please visit www.roche.com.

References

[1] The SBX technology and analysis tools are in development and not commercially available. The content of this material reflects current study results or design goals.

F. Hoffmann-La Roche Ltd
4070 Basel
Switzerland
Group Communications
Roche Group Media Relations
Phone +41 61 688 88 88
www.roche.com

Roche Global Media Relations

Phone: +41 61 688 8888 / e-mail: media.relations@roche.com

Hans Trees, PhD
Phone: +41 79 407 72 58

Nathalie Altermatt
Phone: +41 79 771 05 25

Simon Goldsborough
Phone: +44 797 32 72 915

Kirti Pandey
Phone: +49 172 6367262

Dr Rebekka Schnell
Phone: +41 79 205 27 03

Sileia Urech
Phone: +41 79 935 81 48

Lorena Corfas
Phone: +41 79 568 24 95

Karsten Kleine
Phone: +41 79 461 86 83

Yvette Petillon
Phone: +41 79 961 92 50

Roche Investor Relations

Dr Bruno Eschli
Phone: +41 61 68-75284
e-mail: bruno.eschli@roche.com

Dr Sabine Borngräber
Phone: +41 61 68-88027
e-mail: sabine.borngraeber@roche.com

Dr Birgit Masjost
Phone: +41 61 68-84814
e-mail: birgit.masjost@roche.com

Investor Relations North America

Loren Kalm
Phone: +1 650 225 3217
e-mail: kalm.loren@gene.com