

ISSUE NO. 1/2026

PARTNERING TO SCALE SINGLE-CELL ANALYSIS

Tecan Journal article.



Over the last decade, single-cell analysis (SCA) has become one of the most promising approaches in the broad life science arena. The ability to study the unique genomic, transcriptomic and proteomic profiles of individual cells has uncovered cellular heterogeneity that is often masked in traditional analyses. By identifying rare cell types, tracking cell lineage and revealing dynamic cellular states, SCA can accelerate discoveries in areas like cancer research, regenerative medicine, reproductive health and personalized therapies, ultimately leading to more precise diagnostics and targeted treatments.

However, SCA has its challenges, ranging from sample preparation and maintaining cell viability to data complexity and analysis. So, while the approach offers unprecedented insights into cellular diversity and function, addressing its limitations is essential for reliable and meaningful results. Thankfully, advances in technology, bioinformatics and standardization are helping to overcome many of the issues.

Headquartered in Durham, North Carolina, in the United States, BioSkryb Genomics is a company that focuses on the potential of single-cell analysis. With their proprietary technologies, including ResolveOME™, a unified single-cell whole-genome and transcriptome workflow, and their bioinformatics platform Base-Jumper®, the company aims to make SCA easier and more complete, ushering in a new era of single-cell analysis.

“Our mission is really to improve health through the understanding of biological heterogeneity,” explains Caroline Tomblin, Development Manager at BioSkryb. “Today we work in the research space but ultimately it would be wonderful to see single-cell technologies move closer to the patient and contribute to personalized healthcare.”

BioSkryb pride themselves on being willing to take on difficult challenges and ideas for new projects are always considered. Selected proposals progress to the next development stage, undergoing extensive robustness and scaling processes before qualifying as customer solutions.

In April 2025, a collaboration was announced between BioSkryb and Tecan to introduce a single-cell multiomics workflow for generating sequencing-ready libraries in under ten hours¹. This collaboration combines BioSkryb’s new ResolveOME™ Whole Genome and Transcriptome Single-Cell Core Kit 384-well assay with the Uno Single Cell Dispenser™ provided by Tecan, all in a single workflow.



“Our need for higher throughput was a key reason to work with Tecan and leverage their automation expertise,” commented Tatiana Morozova, Staff Scientist and Technical Transfer Lead in Research and Development (R&D) at BioSkryb. “We had already been using the D300e™ Digital Dispenser, so moving to Duo for single-cell isolation was a natural next step.”

Tecan’s latest contribution to BioSkryb’s laboratory is the Duo Digital Dispenser™. The Duo combines single-cell isolation and reagent dispensing in a single benchtop instrument, dispensing at the picoliter scale and maintaining high cell viability. It supports both standard SBS microplates and custom plate layouts. This streamlines workflows and enables faster, more reproducible experiments.

“We wanted to get away from FACS (Fluorescence Activated Cell Sorting) technology,” continues Tatiana, “and we love Duo’s ease of use. We particularly like being able to set the cell size in the software, which is new on this instrument. The user interface is also super easy to work with.”

Alison Rojas, Senior Development Scientist, endorses Duo’s ease of use: “We’ve had young students in our laboratory who have never held a multichannel pipette and within a day they can run workflows. The accuracy and reproducibility are great and after using Duo nobody wants to go back to manual pipetting!”



When asked about the partnership with Tecan, the team are equally enthusiastic: “Our relationship is very collaborative. We enjoy giving input and we feel Tecan listens to us. We release the scripts from our Tecan-enabled workflows to our customers so overall Tecan makes our lives easier.”

BioSkryb is working to support scientific discoveries by revealing multiple tiers of dynamic molecular information from single cells. Those discoveries drive novel biological insights and deliver a more

complete understanding of the relationship between genes and disease, advancing the development of more precise treatments.

The partnership between BioSkryb and Tecan is a great example of two companies combining their expertise to drive innovation. As the applications for single-cell analysis expand further in the coming years, the partnership aims to support and broaden the utilization of single-cell multiomics in an increasing number of laboratories around the world.

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