CeGaT

Research &
Pharma Solutions

Chromium™ X Performance

Chromium™ Controller vs. Chromium™ X from 10x Genomics®

CeGaT replaced the Chromium™ Controller from 10x Genomics® with their newer Chromium™ X device. The Chromium™ X has additional sensors and more accurate control of the pressure and tray temperature compared to the Chromium™ Controller. With the Chromium™ X, assays can now be run with high throughput. 10x Genomics® tested the 3' Single-Cell RNA Sequencing and the Single-Cell Immune Profiling assays in parallel on both instruments. They observed similar performances of the assays on both instruments: multiplet rates, library complexity, read mapping rates, and cell clustering were comparable. The detailed testing report from 10x Genomics® can be found in their Technical Note.

Our laboratory also tested a peripheral blood mononuclear cell (PBMC) sample with a 3' Single-Cell RNA Sequencing assay on both instruments. As 10x Genomics® reported the cell clustering is comparable. This can be seen in the aggregated t-SNE projection plot (figure 1) from both assays. In the t-SNE projection, a clustering algorithm groups cells together that possess similar expression profiles. Cells that are close to each other have more similar gene expression profiles than cells that are distant from each other in the plot. The assay run on the Chromium™ Controller (blue) shows comparable cell subpopulation clusters as the assay run on the Chromium™ X (orange).

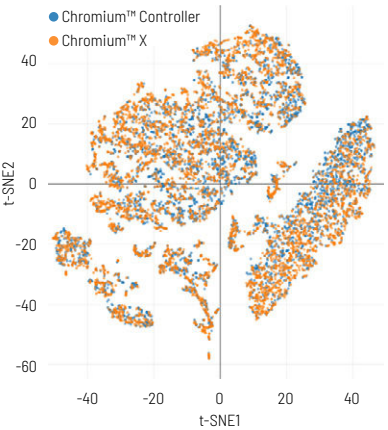

Figure 1 | Comparison of the Chromium™ Controller and Chromium™ X. The aggregated t-SNE projection from a PBMC sample with a 3' Single-Cell RNA Sequencing assay on both instruments shows comparable cell subpopulation clusters.

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