

# Chart your own course with a low-throughput kit for pilot & optimization studies

## Single Cell Gene Expression LT

Whether you are just getting started with single cell gene expression, running pilot studies, or optimizing experimental conditions, the Chromium Single Cell Gene Expression LT (low throughput) kit provides a cost-effective solution for smaller-scale projects. Discover the most affordable and reliable way to get started with single cell gene expression.

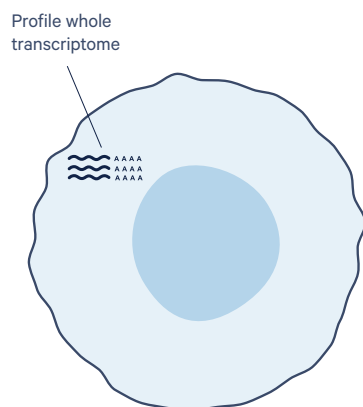
### Highlights

- Generate high-quality pilot data before transitioning to full-scale studies
- Optimize experimental conditions and sample preparation protocols to inform experimental design
- Reduce experimental start-up costs to more easily get started with single cell gene expression using a proven technology

### Single cell analysis capabilities

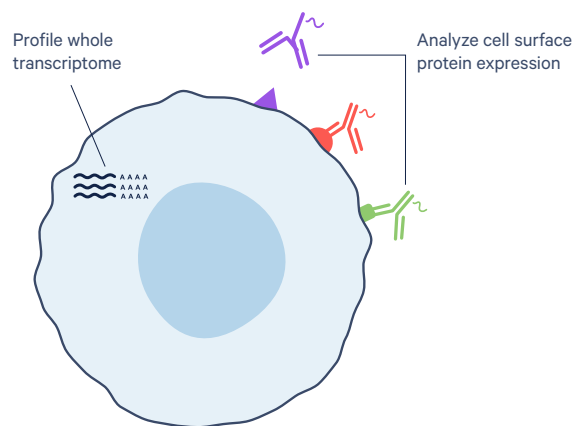
#### A.

Gene expression



#### B.

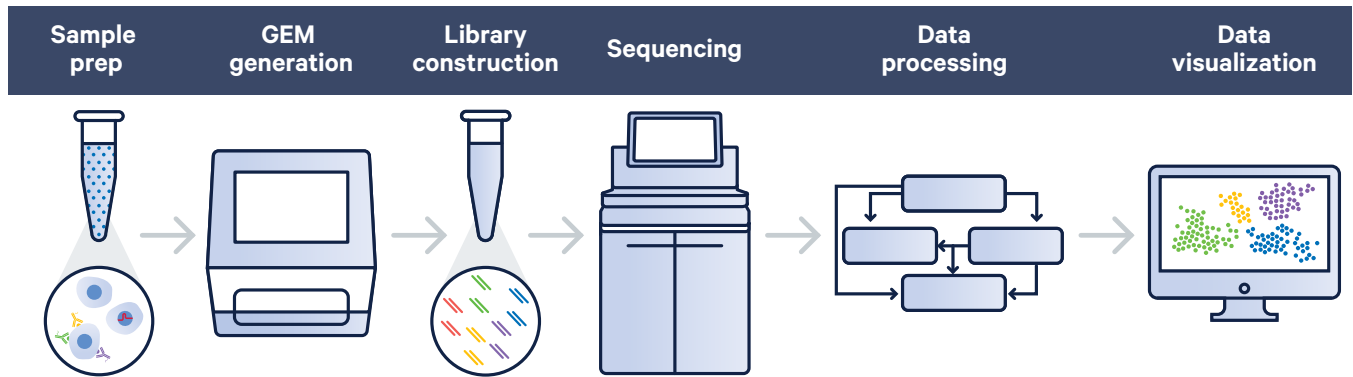
Gene expression and cell surface protein expression



**Figure 1. Assess cellular heterogeneity with single cell profiling.** **A.** Chromium Single Cell Gene Expression LT provides whole transcriptome 3' profiling at the single cell level for 100–1,000 cells per sample. **B.** Combined with Feature Barcode technology, Single Cell Gene Expression LT enables simultaneous gene expression profiling and cell surface protein detection for tens to hundreds of antibodies.

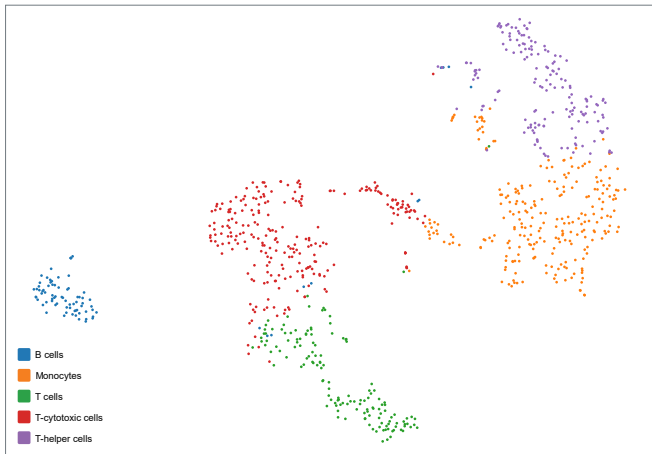
## Product features

- Profile gene expression for a hundred to a thousand single cells per sample by barcoding mRNA at the 3' end, allowing characterization of common cell types
- Combine gene expression analysis with detection of tens to hundreds of cell surface proteins using oligonucleotide-conjugated antibodies for additional cellular phenotyping
- Perform cost-effective optimization of experimental conditions and sample preparation protocols to maximize the impact of single cell experiments
- Conduct pilot studies and generate preliminary data with reduced upfront costs and lower cost per sample to more easily get started with single cell gene expression
- Follow a ready-to-use, robust workflow with demonstrated protocols for diverse sample types, including cell lines, primary cells, and dissociated tissue

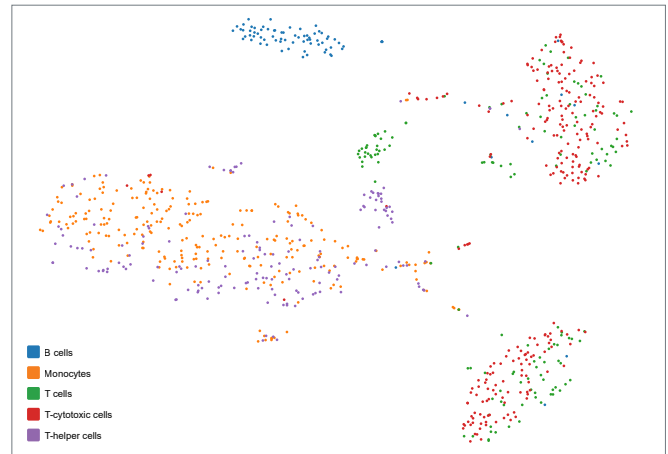


**Figure 2. Efficient and streamlined workflow for small-scale gene expression studies.** Start with a suspension of unlabeled single cells or nuclei, or oligo-conjugated antibody-labeled cells. Following GEM generation, construct up to two libraries from a single sample, including gene expression and cell surface protein, and generate multiple readouts that can be linked back to the same single cell. After sequencing, process data with Cell Ranger and visualize sample heterogeneity with Loupe Browser, our freely available and easy-to-use analysis and visualization software tools.

**A.** Gene expression clustering

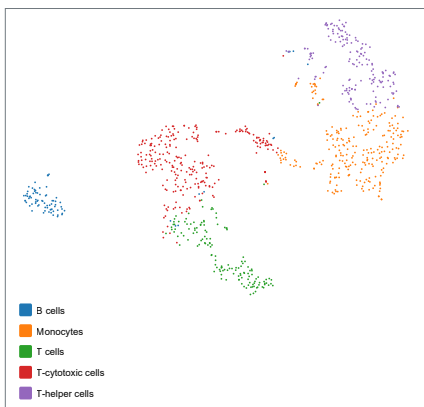


**B.** Cell surface protein clustering

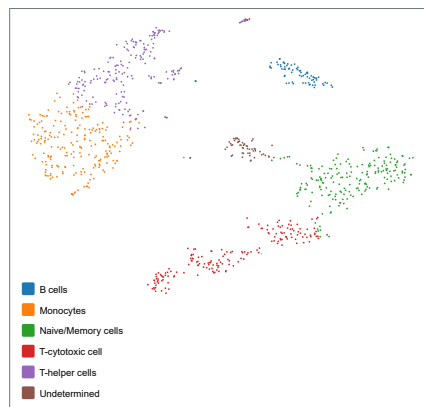


**Figure 3. Power pilot and optimization studies with multiomic analysis.** **A.** t-SNE projection of approximately 1,000 cells processed with Single Cell Gene Expression LT and analyzed with Cell Ranger, based on whole transcriptome gene expression. **B.** t-SNE projection of the same sample based on cell surface protein expression using a panel of 9 antibody markers.

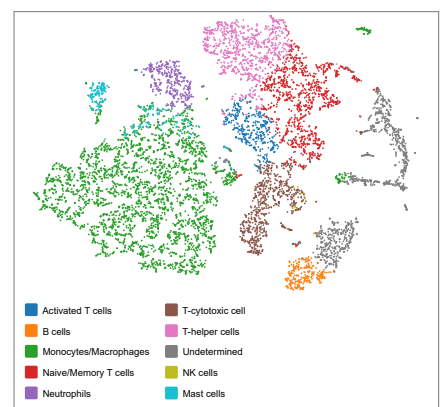
**A.** Single Cell Gene Expression LT (~900 cells)



**B.** Single Cell Gene Expression (~900 cells)



**C.** Single Cell Gene Expression (~8,500 cells)



**Figure 4. Generate high-quality initial data to inform full-scale studies.** Single Cell Gene Expression LT results are comparable to those of our standard Single Cell Gene Expression workflow. **A.** t-SNE projection for approximately 900 cells run with Single Cell Gene Expression LT with clusters labeled based on manual cell-type annotation using common marker genes. **B.** t-SNE projection for approximately 900 cells run with standard Single Cell Gene Expression, showing comparable cluster number and cell-type annotation. **C.** Analyzing more cells improves cluster resolution and cell characterization, as seen in a t-SNE projection of approximately 8,500 cells run with standard Single Cell Gene Expression.

## Product specifications

- Efficiently partition 100–1,000 cells per channel, for up to 8,000 cells per run
- Cell size flexibility, no lower limits
- Cell capture rates of up to 35%
- Multiplet rates of 8.0% per 1,000 cells
- Compatible with whole cells and nuclei

## Other throughput options

- For standard single cell gene expression experiments (500–80,000 cells), see the Product Sheet for [Chromium Single Cell Gene Expression](#)
- For high-throughput (HT) single cell gene expression experiments (2,000–320,000 cells or up to 730,000 singlets,\* with 3' CellPlex sample multiplexing), see the Product Sheet for [Chromium Single Cell Gene Expression HT](#)

\*Singlets are single cells or nuclei captured after multiplet removal.

LT gene expression profiling products	Product code
Chromium Next GEM Single Cell 3' LT Kit v3.1, 4 rxns & 2 chips	1000325
Dual Index Kit TT Set A, 96 rxns	1000215
Feature Barcode technology products	Product code
3' Feature Barcode Kit, 16 rxns	1000262
Dual Index Kit NT Set A, 96 rxns	1000242
Instrument compatibility	Product code
Chromium iX & Accessory Kit, 12 Mo. Warranty	1000328
Chromium iX & Accessory Kit, 24 Mo. Warranty	1000329
Chromium X & Accessory Kit, 12 Mo. Warranty	1000331
Chromium X & Accessory Kit, 24 Mo. Warranty	1000332
Chromium X Upgrade Package	1000330
Chromium Controller & Next GEM Accessory Kit, 12 Mo. Warranty	1000202
Chromium Controller & Next GEM Accessory Kit, 24 Mo. Warranty	1000204
Software	
Cell Ranger <a href="https://go.10xgenomics.com/scRNA-3/cell-ranger">go.10xgenomics.com/scRNA-3/cell-ranger</a> <a href="https://10xgenomics.com/cloud">10xgenomics.com/cloud</a>	Download Run with Cloud Analysis
Loupe Browser <a href="https://go.10xgenomics.com/scRNA-3/loupe-cell">go.10xgenomics.com/scRNA-3/loupe-cell</a>	Download
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[10xgenomics.com](https://10xgenomics.com) | [info@10xgenomics.com](mailto:info@10xgenomics.com)

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LIT000120 - Rev B - Product Sheet - Chart your own course with a low-throughput kit for pilot & optimization studies

