Dissecting cell-type differences in complex biological systems is critical to our understanding of cellular contributions during development and in disease progression. Until recently, most molecular studies have relied on bulk analysis, combining all cells into a single average readout. The Chromium Single Cell Gene Expression Solution provides an unparalleled approach to uncover cell-to-cell gene expression variability and identify rare cell types from complex biological samples. Our latest improvements vastly increase sensitivity, so you can detect even more unique transcripts per cell.

Go beyond traditional gene expression analysis to characterize cell populations, cell types, cell states, and more on a cell-by-cell basis. From assessing tumor heterogeneity and stem cell composition, to dissecting neuronal populations—the technological advancements provided by the Chromium Single Cell Gene Expression Solution, along with turnkey software tools, allow you to maximize insight from any sample type.

HIGHLIGHTS

- Identify and characterize rare cell types
- Characterize cell populations without prior knowledge of cell subtypes or cell markers
- Define novel cell types and cell states
- Discover new biomarkers for specific cell subpopulations
- Analyze and understand cellular heterogeneity and how this contributes to your biological system

Major Subpopulations Observed Within a Heterogeneous PBMC Sample

tSNE projections of ~6000 peripheral blood mononuclear cells (PBMCs) output by Cell Ranger. PBMCs are grouped together based on digital gene expression information. Major cell populations were identified based on gene markers that are enriched in each cluster. Each cell type is color-coded based on classification.
Reveal the Full Complexity of Cellular Diversity, Cell by Cell

Single Cell Profiling of Brain Cells Reveal Multiple Neuronal and Non-neuronal Cell Types

SOLUTION FEATURES

• Ready-to-use, robust workflow, including demonstrated protocols for various sample types such as cell lines, primary cells, dissociated fresh tissue
• Compatible with whole cells and nuclei
• Latest improvements increase sensitivity enabling the detection of more unique transcripts per cell, potentially decreasing sequencing requirements
• Easy-to-use and convenient software with Cell Ranger Analysis Pipelines and Loupe Cell Browser visualization tool
• Compatible with Feature Barcoding technology

SYSTEM FEATURES

• Partition 500 – 80000+ cells in under 9 minutes
• Scalable; run up to 8 samples in parallel
• Simple workflow
• Superior sensitivity
• Cell size flexibility, no lower limits
• High cell capture rates of up to 65%
• Low doublet rates of under 0.8% in 1000 cells

Learn More at
10xgenomics.com/single-cell
Identification of Specific Subpopulations in MALT Lymphoma

1-SNE projection of 9481 cells derived from dissociated Mucosa-Associated Lymphoid Tissue (MALT). Major subpopulations were identified based on gene markers that are enriched in each class. We show clear identification of CD4 T cells, CD8 T cells, Treg cells, and Tfh cells. The B cell populations correspond to B cells and B cell lymphoma undergoing plasmacytic differentiation (plasma cells).

APPLICATIONS
- Single Cell RNA Sequencing
- Rare Cell Detection
- Tumor Heterogeneity
- Mechanisms of Cellular Development
- Response to Therapeutic Interventions
- Biomarker Discovery
- Cell Atlassing

RESEARCH AREAS
- Cancer Biology
- Neuroscience
- Immunology
- Developmental Biology
- Stem Cell Biology

ADDITIONAL RESOURCES

DATASETS  go.10xgenomics.com/scRNA-3/datasets
SEMINARS  go.10xgenomics.com/scRNA-3/seminars
APPLICATION NOTES  go.10xgenomics.com/scRNA-3/app-notes
TECHNICAL SUPPORT  go.10xgenomics.com/scRNA-3/support
PUBLICATIONS  go.10xgenomics.com/scRNA-3/pubs

PRODUCTS

PRODUCT CODE
Chromium Single Cell 3’ Library & Gel Bead Kit v3, 4 rxns1 1000092
Chromium Single Cell 3’ Library & Gel Bead Kit v3, 16 rxns1 1000075
Chromium Chip B Single Cell Kit, 48 rxns1 1000073
Chromium Chip B Single Cell Kit, 16 rxns1 1000074
Chromium i7 Multiplex Kit, 96 rxns 120262
Chromium Controller & Accessory Kit, 12 Mo. Warranty 120223
Chromium Controller & Accessory Kit, 24 Mo. Warranty 120246
Cell Ranger  go.10xgenomics.com/scRNA-3/cell-ranger
Loupe Cell Browser  go.10xgenomics.com/scRNA-3/loupe-cell

1 Available for use only with the indicated Chromium Controller (PN-120223;120246) or Chromium Single Cell Controller (PN-120263;120212).
We are dedicated to helping you get the most out of your 10x Genomics system by offering multiple helpful resources:

- **Solutions and Products**
  Along with our suite of complete solutions, we offer an ever-growing catalogue of services to help you find the answers to your research questions.

- **10x Compatible Products**
  Access our list of key partner products that have been certified compatible to work with our various solutions.

- **10x University**
  Immerse yourself in 10x University, a comprehensive step-by-step learning and training environment containing video tutorials and trainings.

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