

Reveal Genomes, Cell by Cell

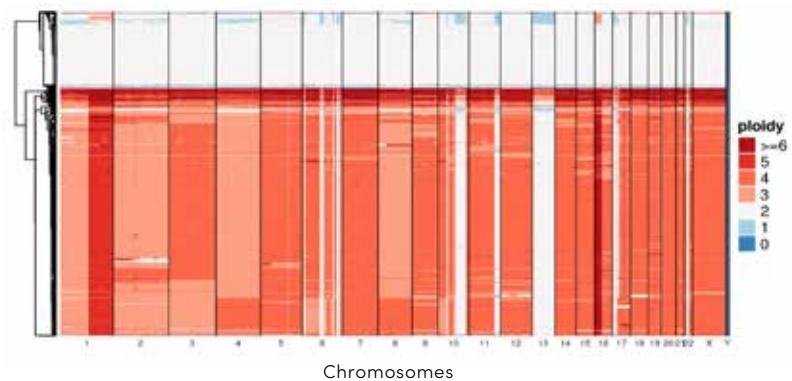
The Chromium Single Cell CNV Solution

The Chromium Single Cell CNV Solution provides a comprehensive, scalable approach to determine genome heterogeneity and map clonal evolution by profiling hundreds to thousands of cells in a single sample. Researchers can now create sequencing libraries from the DNA of single cells and analyze the genomic data with intuitive software and visualization tools. It is now easier than ever to study complex pathogenesis, including cancer progression and genetic disorders, at unprecedented scale and resolution.

Highlights

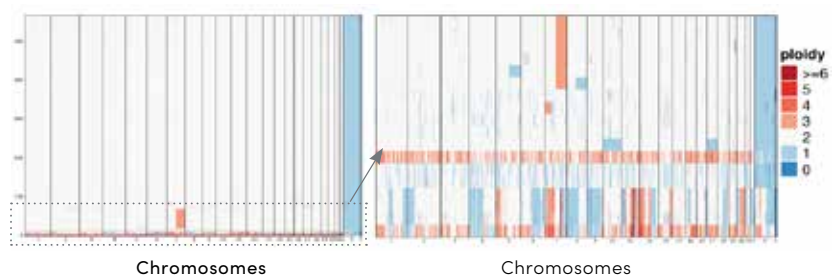
- Accurately detect single cell CNV events at 2 Mb resolution
- Profile hundreds to thousands of cells
- Demonstrated with cell lines, primary cells, fresh tissue, frozen tissue
- Perform hierarchical clustering of single cell CNV profiles
- Detect CNV events down to roos of Kb on cell clusters
- Detect presence of rare clones that occur down to 1% at 1000 cell input
- Analyze data using Cell Ranger DNA and visualize the results with Loupe scDNA Browser

Profile Sample Heterogeneity



Heatmap showing hierarchical clustering of 2053 single cell CNV profiles from breast tumor tissue. The sample comprises 17.9% normal cells and a heterogeneous population of tumor cells. Each heatmap row represents a whole genome CNV profile for a single cell and the colors represent the called ploidy as specified by the legend on the right.

Detect Rare Clones



Left: Heatmap showing the CNV profiles of 569 cells after 1% spike-in of MKN-45 cells (cancer cell line) into a BJ diploid cell line sample. The CNV profiles primarily correspond to the diploid cell line, while the bottom region of the heatmap corresponds to the MKN-45 cells. Right: Enlargement of the bottom region of the heatmap highlighting the heterogeneous, non-diploid CNV profiles of the MKN-45 cells and an amplification in chromosome 7 of the diploid cell line, demonstrating that cell lines may not always be homogeneous.

Products	Product Code
Chromium Single Cell DNA Cell Bead Kit, 16 rxns ¹	1000056
Chromium Single Cell DNA Cell Bead Kit, 4 rxns ¹	1000057
Chromium Single Cell DNA Library & Gel Bead Kit, 16 rxns ¹	1000040
Chromium Single Cell DNA Library & Gel Bead Kit, 4 rxns ¹	1000041
Chromium Chip C Single Cell DNA Kit, 48 rxns ¹	1000022
Chromium Chip C Single Cell DNA Kit, 16 rxns ¹	1000032
Chromium Chip D Single Cell DNA Kit, 48 rxns ¹	1000042
Chromium Chip D Single Cell DNA Kit, 8 rxns ¹	1000036
Chromium i7 Multiplex Kit, 96 rxns	120262
Flowmi Filters, 50 rxns	1000055
10x Chromium Chip D Holder ¹	1000053
10x Magnetic Separator A	1000054
Chromium Controller & Accessory Kit, 24 Mo. Warranty	120246
Chromium Controller & Accessory Kit, 12 Mo. Warranty	120223
Cell Ranger DNA Analysis Pipelines go.10xgenomics.com/scCNV/cell-ranger-dna	Download
Loupe scDNA Browser go.10xgenomics.com/scCNV/loupe-scDNA	Download

¹ Available for use only with the indicated Chromium Controller (PN-120223;120246) or Chromium Single Cell Controller (PN-120263;120212).

Applications

- Tumor Heterogeneity
- Clonal Evolution
- Neuronal Mosaicism
- Genetic Disorders
- Metabolic Disorders

Research Areas

- Oncology
- Neuroscience
- Genetics
- Epidemiology
- Stem Cell Biology

Additional Resources

Datasets	go.10xgenomics.com/scCNV/datasets
View Videos	go.10xgenomics.com/scCNV/videos
Application Notes	go.10xgenomics.com/scCNV/app-notes
Technical Support	go.10xgenomics.com/scCNV/support
Publications	go.10xgenomics.com/scCNV/pubs