

High Resolution Profiling of Adaptive Immune Repertoire and Cellular Context

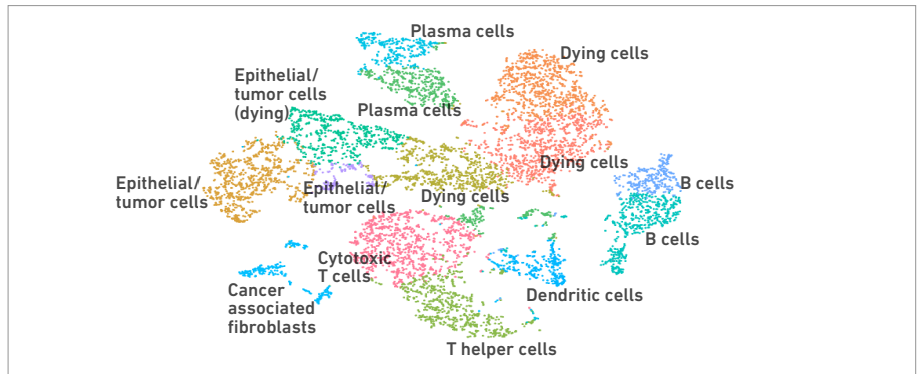
THE CHROMIUM SINGLE CELL IMMUNE PROFILING SOLUTION

The Chromium Single Cell Immune Profiling Solution is a comprehensive approach to simultaneously examine the cellular context of the immune system and the immune repertoires of hundreds to tens of thousands of T and B cells on a cell-by-cell basis. From immunology and immunology, to infectious disease research—these technological advancements, along with intuitive software analysis and visualization tools, accelerate the understanding of the adaptive immune system.

HIGHLIGHTS

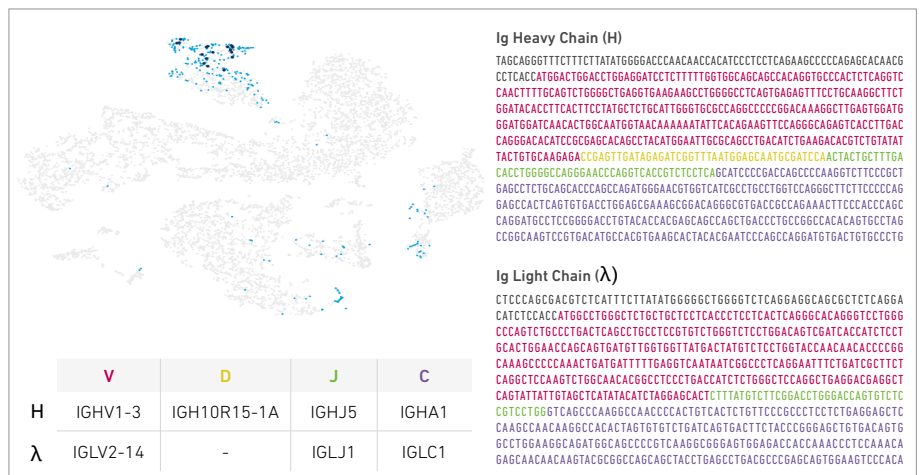
- Profile human or mouse cells on a single cell level
- Assemble and annotate full-length V(D)J segments
- Pair alpha and beta chain T-cell receptor (TCR) sequences from individual T cells
- Pair heavy and light chain Immunoglobulin (Ig) sequences from individual B cells with full isotype resolution
- Simultaneously assess TCR, Ig, and 5' gene expression in the same cell
- Reveal the clonality, diversity, and cellular context of the immune repertoire using Cell Ranger Analysis Pipelines, Loupe V(D)J Browser and Loupe Cell Browser
- Partition 100 - 80,000+ cells in < 7 minutes
- Recover up to 65% of all loaded cells
- Low doublet rate: 0.9% per 1,000 cells

Profile Sample Heterogeneity



tSNE projections of colorectal cancer cells output by Cell Ranger and visualized using Loupe Cell Browser. Cells are grouped together based on gene expression profiles. Cell cluster classification was performed by manual curation.

Simultaneously Assess V(D)J Repertoire & Gene Expression



Overlay of gene expression and Ig clonotypes for colorectal cancer cells visualized using Loupe Cell Browser. Light blue dots indicate an Ig clonotype call. Dark blue dots show the location of the most prevalent Ig clonotype in the plasma cell cluster, with the table outlining the gene calls for the heavy (H) and lambda (λ) light chain. The paired H and λ chain V(D)J sequences are shown to the right and corresponding V(D)J nucleotides are color-coded (5'UTR: gray, V: red, D: yellow, J: green, C: purple).

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Gene Expression & Immune Repertoire Profiling

REAGENT KITS	PRODUCT CODE
Chromium Single Cell 5' Library & Gel Bead Kit, 16 rxns ¹	1000006
Chromium Single Cell 5' Library & Gel Bead Kit, 4 rxns ¹	1000014
Chromium Single Cell A Chip Kit, 48 rxns ¹	120236
Chromium Single Cell A Chip Kit, 16 rxns ¹	1000009
Chromium i7 Multiplex Kit, 96 rxns	120262
Chromium Single Cell 5' Library Construction Kit, 16 rxns*	1000020
Target Enrichment Kits	<i>See Enrichment Kits</i>

* Library & Gel Bead Kit contains reagents to generate one library type (Gene Expression, TCR or Ig) from one Gel Bead reaction. Each additional library type from the same Gel Bead reaction requires additional reactions from the 5' Library Construction Kit

Immune Repertoire Profiling

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Chromium Single Cell 5' Library & Gel Bead Kit, 4 rxns ¹	1000014
Chromium Single Cell A Chip Kit, 48 rxns ¹	120236
Chromium Single Cell A Chip Kit, 16 rxns ¹	1000009
Chromium i7 Multiplex Kit, 96 rxns	120262
Target Enrichment Kits	<i>See Enrichment Kits</i>

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

RESEARCH AREAS

- Basic Immunology
- Immuno-oncology & Immunotherapy
- Autoimmune Disorders & Inflammatory Diseases
- Infectious Disease & Vaccine Research
- Transplant & Immune Reconstitution

Target Enrichment Kits

SPECIES & TARGET	ENRICHMENT KITS	PRODUCT CODE
Human T cells	Chromium Single Cell V(D)J Enrichment Kit, Human T Cell, 96 rxns	1000005
Human B Cells	Chromium Single Cell V(D)J Enrichment Kit, Human B Cell, 96 rxns	1000016
Mouse T Cells	Chromium Single Cell V(D)J Enrichment Kit, Mouse T Cell, 96 rxns	1000071
Mouse B Cells	Chromium Single Cell V(D)J Enrichment Kit, Mouse B Cell, 96 rxns	1000072

CONTROLLERS & SOFTWARE

CONTROLLERS & SOFTWARE	PRODUCT CODE
Chromium Controller & Accessory Kit, 24 Mo. Warranty	120246
Chromium Controller & Accessory Kit, 12 Mo. Warranty	120223
Cell Ranger Analysis Pipelines go.10xgenomics.com/vdj/cell-ranger	DOWNLOAD
Loupe V(D)J Browser go.10xgenomics.com/vdj/loupe-vdj	DOWNLOAD
Loupe Cell Browser go.10xgenomics.com/vdj/loupe-cell	DOWNLOAD

ADDITIONAL RESOURCES

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