

A NOVA GERAÇÃO DE SINGLE CELL

MAIS AMOSTRAS E MAIS POSSIBILIDADES



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10x Genomics

Enabling new insights for more researchers



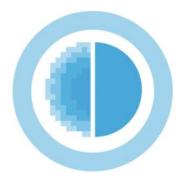
Scale

More cells, more tissues, more samples



Access

Enablement for every lab

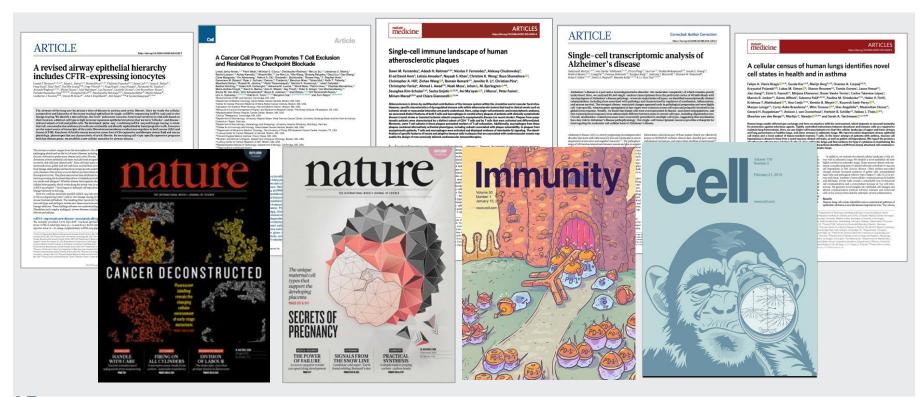


Resolution

More dimensions, simultaneous measurements, complete context



Major discoveries across life sciences





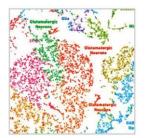
10x Genomics Innovation Engine





Three complementary product platforms

Chromium Single Cell





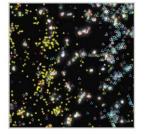
Visium Spatial





The Scientist TOP 10 INNOVATIONS

In Situ













High Impact Publications

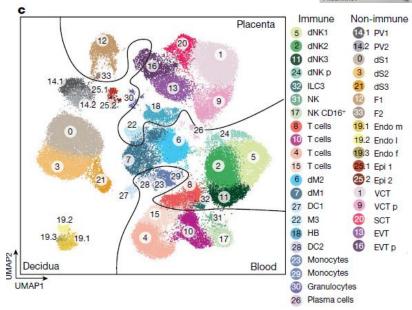
Using single cell and spatial analysis



Single-cell reveals the secrets of pregnancy



- First comprehensive single-cell transcriptomics atlas of the maternal fetal interface
- Identified mechanisms on how harmful adaptive and innate immune responses are minimized.
- Essential resource for understanding normal and pathological pregnancies.





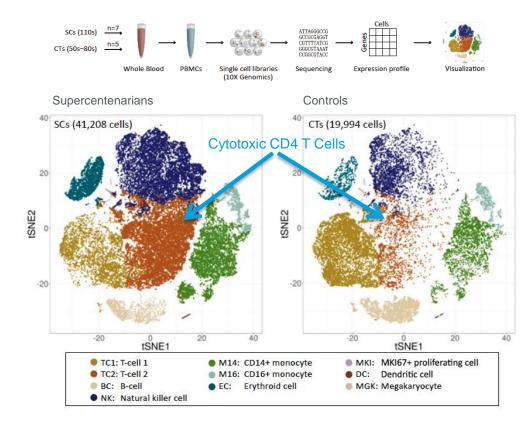
Vento-Tormo et al. 2018

https://doi.org/10.1038/s41586-018-0698-6



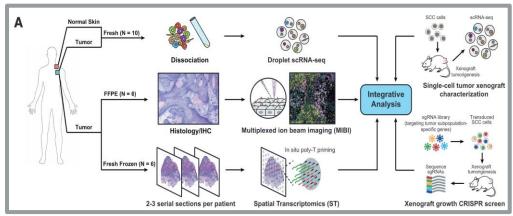
Single-cell Transcriptomics Reveals Expansion of Cytotoxic CD4 T Cells in Supercentenarians

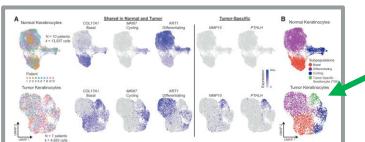
- scRNA-seq on PBMC cells isolated from supercentenarians (110 yo) and controls (50-60 yo)
- The composition of T cells changed significantly in supercentenarians; in particular, the proportion of cytotoxic CD4 T cells had expanded
- Sequence analysis of T-cell receptors at the single cell level revealed that the cytotoxic CD4 T cells in supercentenarians were accumulated through clonal expansion





Multimodal Analysis of Composition and Spatial Architecture in Human Squamous Cell Carcinoma (Ji, Cell, 2020)





In Brief:

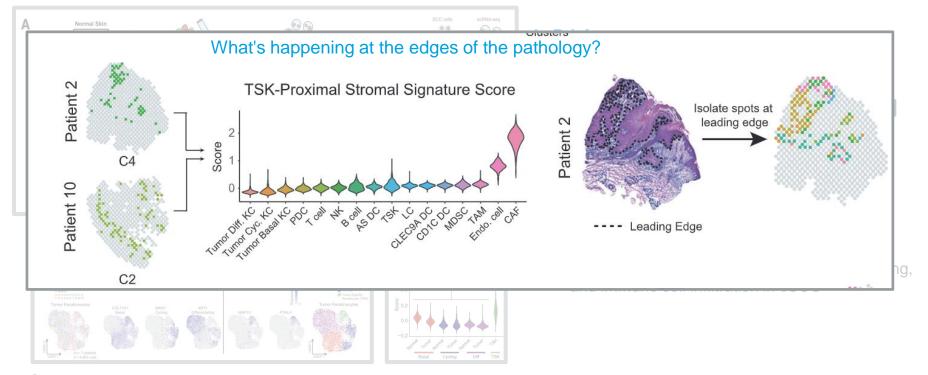
Chromium + Visium (ST) +
Proteomics + CRISPR
in human **skin** cancer (cSCC) and
mouse model

Provides a compelling case for multiomic study in oncology:

- Integrates single-cell, spatial, proteomic, and CRISPR techniques
- Provide insights on tumorigenesis, cell signaling, and immune cell infiltration in cSCC



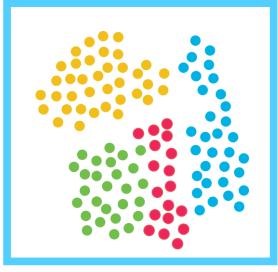
Multimodal Analysis of Composition and Spatial Architecture in Human Squamous Cell Carcinoma (Ji, Cell, 2020)





Product platforms

Chromium



Single Cell

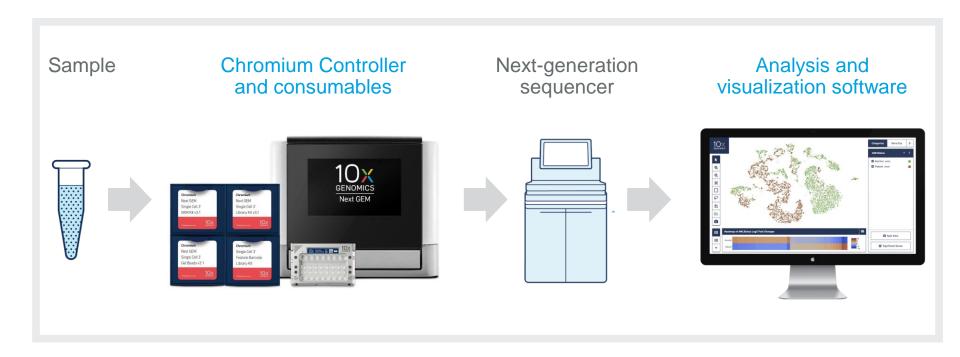
Visium



Spatial

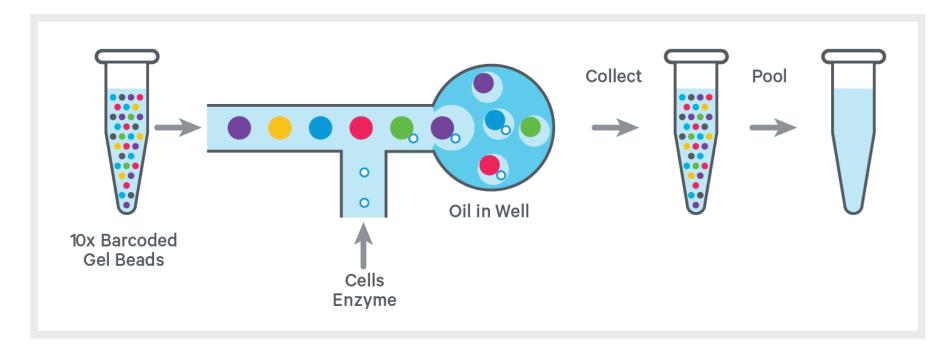


Chromium platform: millions of parallel reactions



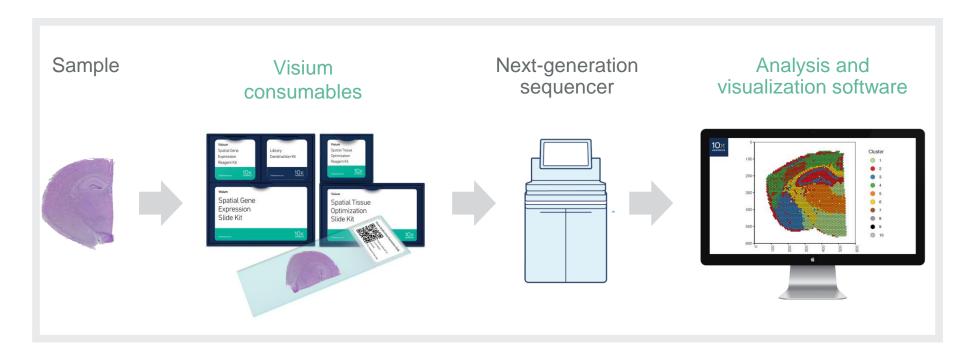


10x Genomics core single cell technology for molecular barcoding





Visium platform: capturing spatial information





Complete Solutions

Instruments



Consumables



Software





New Products Shipped in 2020

Chromium Connect



Chromium Immune Profiling V2

Chromium Multiome
ATAC + Gene Expression

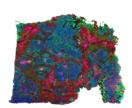








Visium Gene Expression with Immunofluorescence



Cell Ranger 5.0 Loupe Browser 5.0



Visium Targeted Gene Expression









Single 3' Gene Expression + CellPlex



3' CellPlex for Single Cell Gene Expression

Product features

- Multiplex up to 12 samples per channel
- Capture up to 30,000 cells or nuclei per channel
- Compatible across cells and nuclei
- Demonstrated across species human, mouse and others
- Multiomics enabled supports multiplexing protein and CRISPR applications

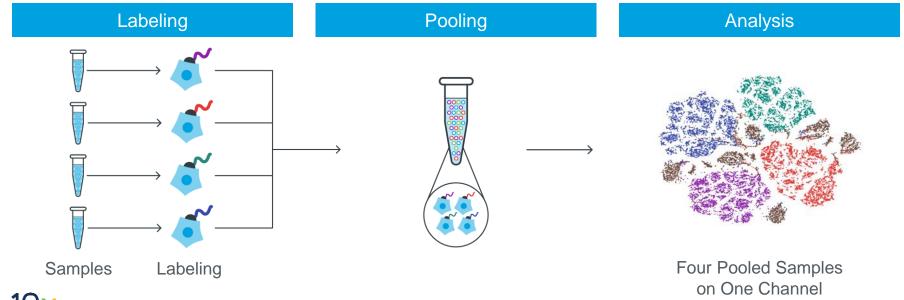




Multiplexing Samples

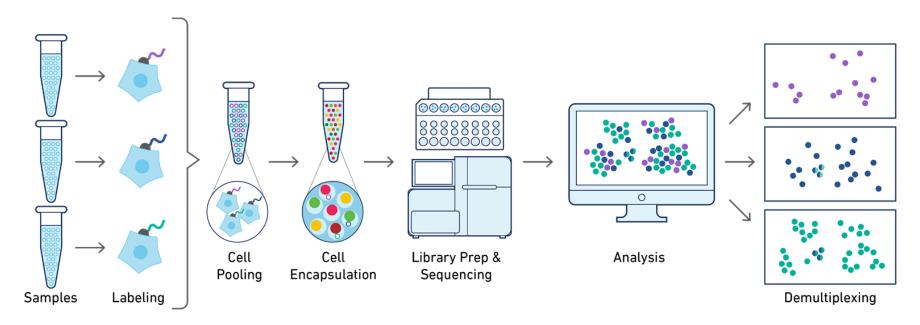
CellPlex Kit

Coming Q1 2021





The Basics of Cell Multiplexing



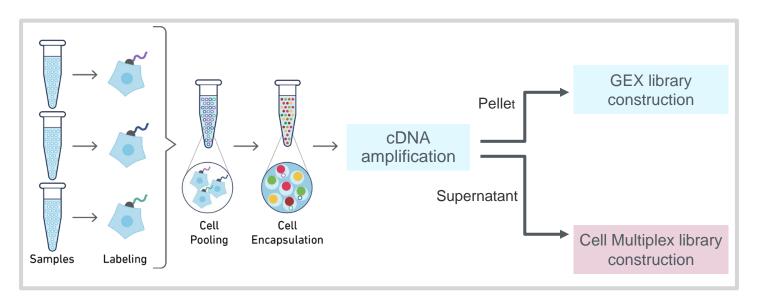
Cell multiplexing enables:

- Running multiple distinct samples in a single channel
- Loading more cells in a single channel, bioinformatically filtering out cell doublets



3' CellPlex Workflow

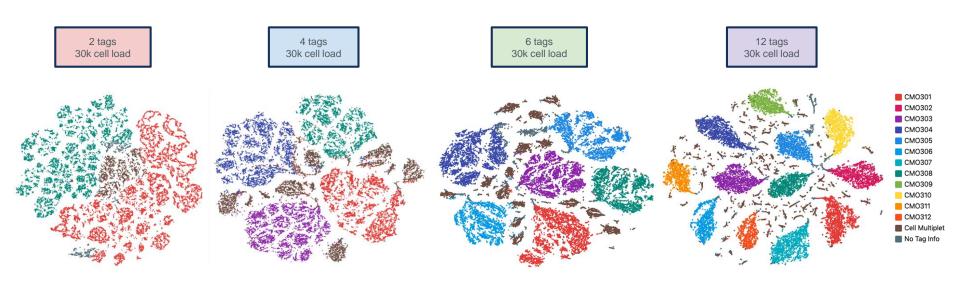
Highly Similar to Existing Feature Barcode Workflows





Multiplexing: Data Highlight

Tag Clustering (tSNE)







Kits Low Throughput



Enabling Pilot and Smaller Experiments

Low Throughput Kit

Coming 1H 2021

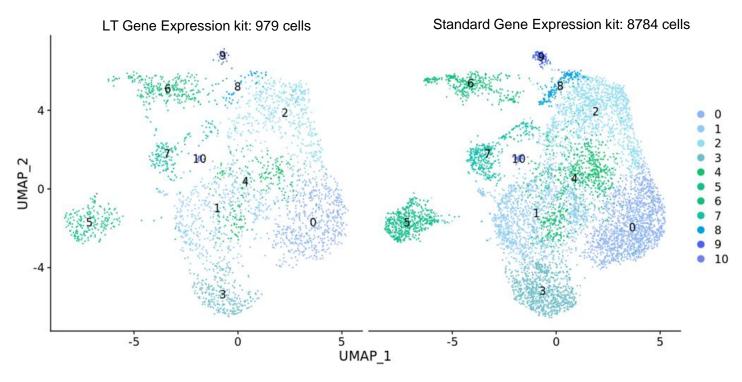


Reduces startup cost for single experiment Enables proof of concept before scaling Interrogates up to 1,000 cells/sample



Generate high quality pilot data before scaling

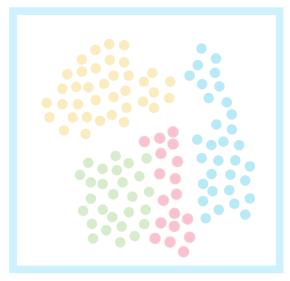
High concordance between LT and standard 3' Gene Expression kits





Product platforms

Chromium



Single Cell

Visium



Spatial





Breaking spatial barriers

Spatial biology without limits





Visium Spatial Platform





2020Visium Spatial Gene Expression

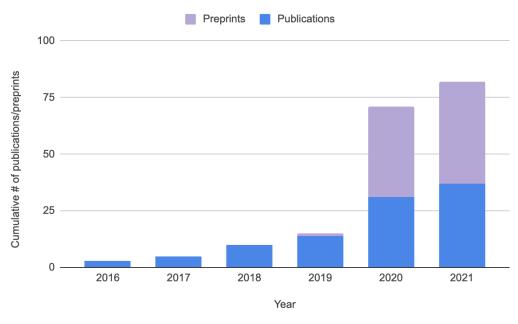


2020Spatially Resolved Transcriptomics



Rapidly growing adoption of Visium



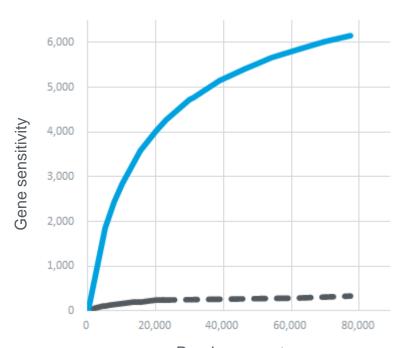




The Challenge of FFPE Samples

FFPE tissue preservation degrades RNA





Standard Visium Fresh Frozen

Standard Visium with FFPE

Reads per spot



Enabling True Discovery on FFPE



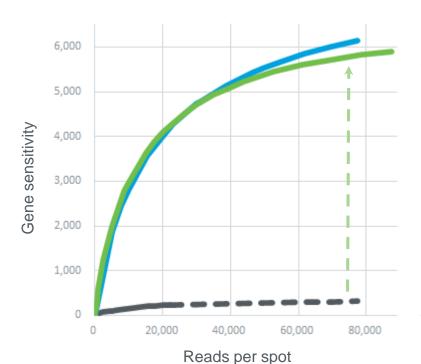
- High sensitivity
- Whole transcriptome
- Full coverage of tissue sample
- Simultaneous co-detection of proteins
- Non-polyA based chemistry



Solving the Challenge of FFPE

FFPE tissue preservation degrades RNA





Standard Visium Fresh Frozen Visium for FFPE

Standard Visium with FFPE



Enabling new insights for more researchers



Scale

More cells, more tissues, more samples



Access

Enablement for every lab

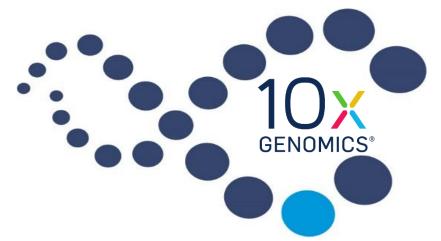


Resolution

More dimensions, simultaneous measurements, complete context



Obrigada!



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