



CellScape™: Differentiated Quantitative Performance in Spatial Biology

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Field Application Scientist

19/07/2024

Why is Spatial Biology Important?

Provides *in situ* Positional Context of Cells in Tissue

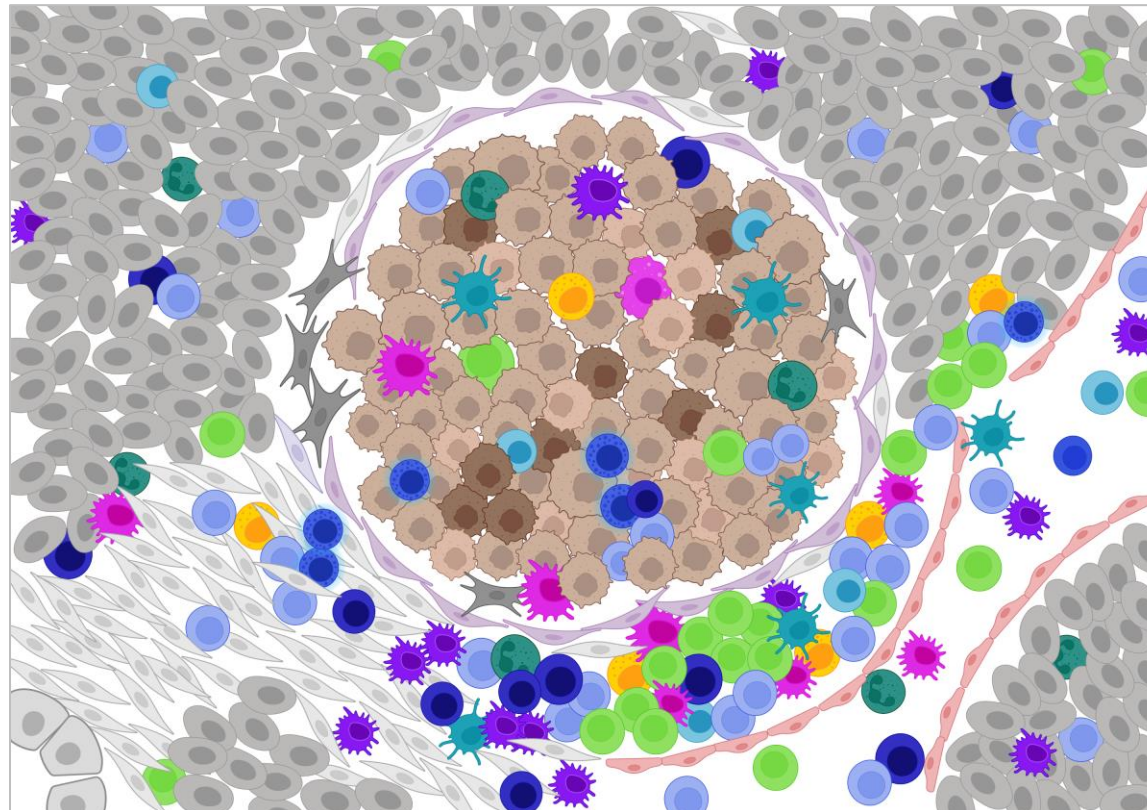
The Tissue Microenvironment

What are and where are the cell types in the tissue microenvironment?

What are the sub-types of these cell types?

What does the immune cell infiltration look like in the tissue microenvironment?

What is happening at the tumor-immune system interface?



What is the relationship between the cells? Is there inherent order in these neighborhoods?

Can we understand the cell-cell communication networks?

What are the key roles of these cells? What are they doing?

Can we develop better diagnostics? Can we design better therapies?



Introducing CellScape™: The Next-Generation ChipCytometry™ Instrument

Seamless Fluidics Integration

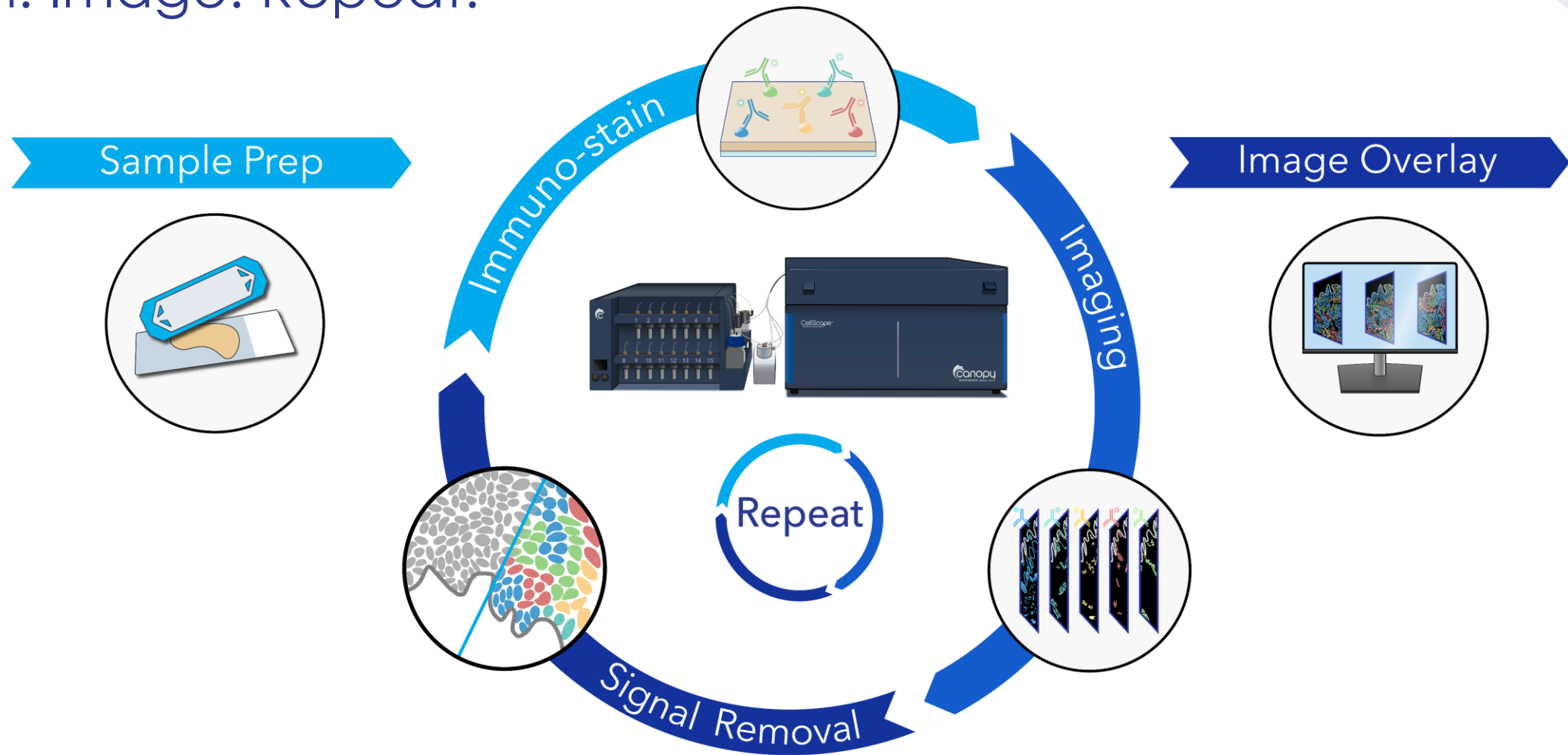


Purpose Built and Highly Optimized
for High-throughput, High-plex
Spatial Proteomics



4-gang sample holder

Stain. Image. Repeat.





ChipCytometry™ Chips

Iterative High-Plex Staining

- Facilitates iterative antibody staining and washing on single sample on one device
- Re-interrogate samples with additional antibody staining
- Enables large area scans

Safe Sample Storage

- Store your cell sample for up to 2 years on the chip
- Chip design preserves integrity of sample
- Eliminate cryo-bias

Convenient and Easy to Use

- All in one kit for sample loading and fixing
- Sample tracking and Inventory
 - Barcodes on each chip facilitate sample inventory management and control



Tissue Chips



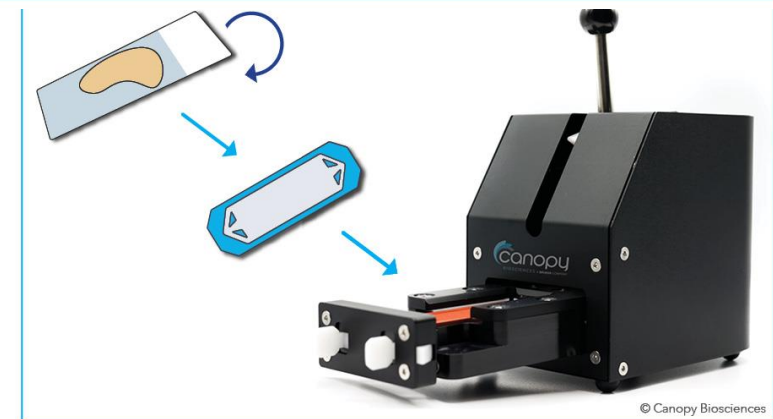
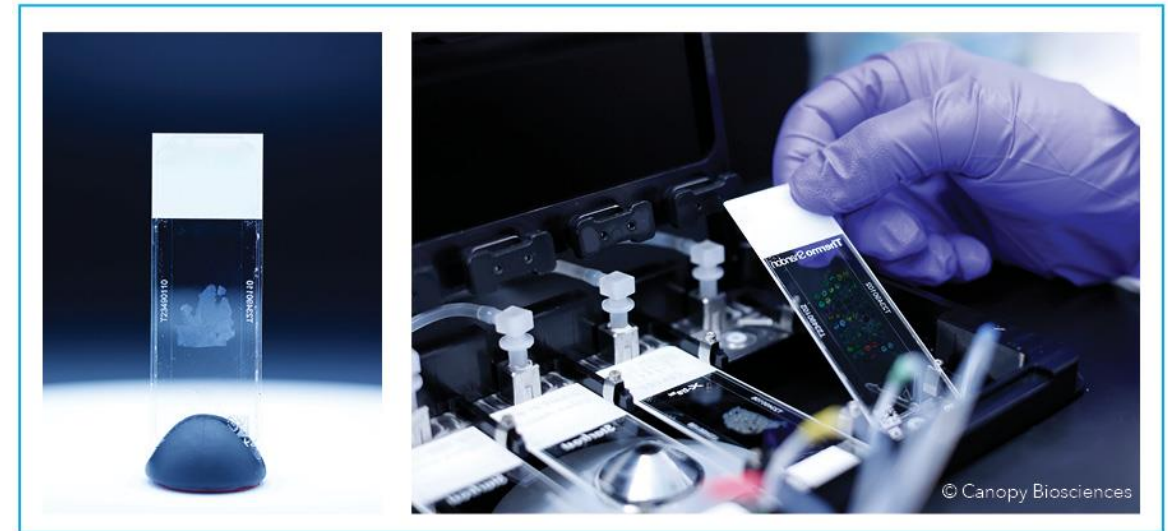
Cell Suspension Chips



Compatibility with Standard Histology Slides

CellScape Compatibility with Standard Slides

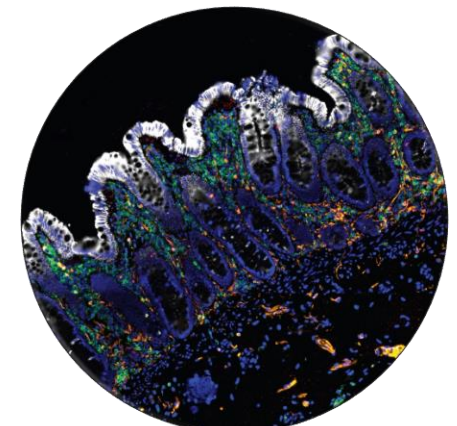
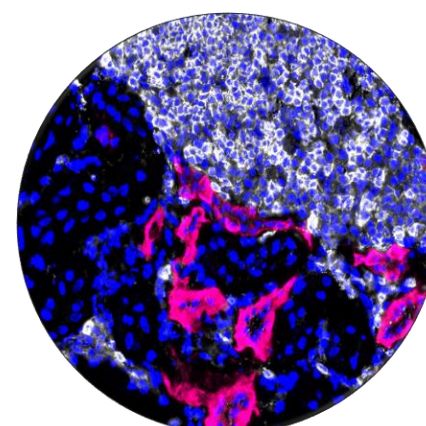
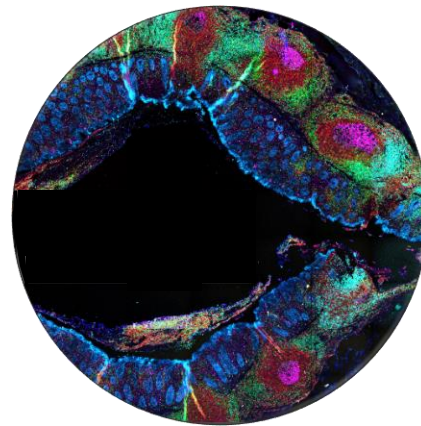
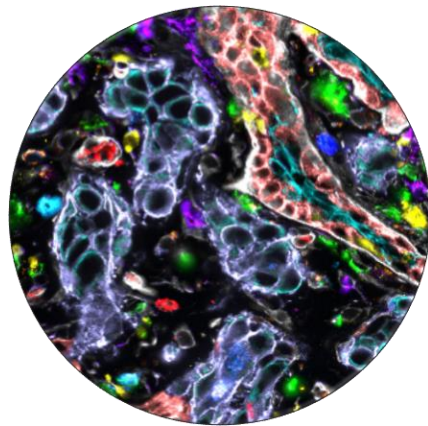
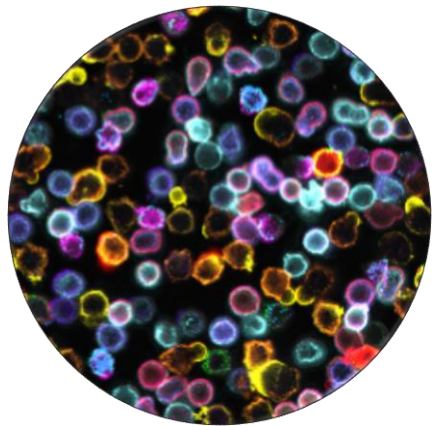
- Use standard 1 mm histology slides
- Analyze archived tissue samples
- Maintain capability to save and re-interrogate your samples





CellScape™ is tissue and species agnostic

More than 350 validated antibodies



Human

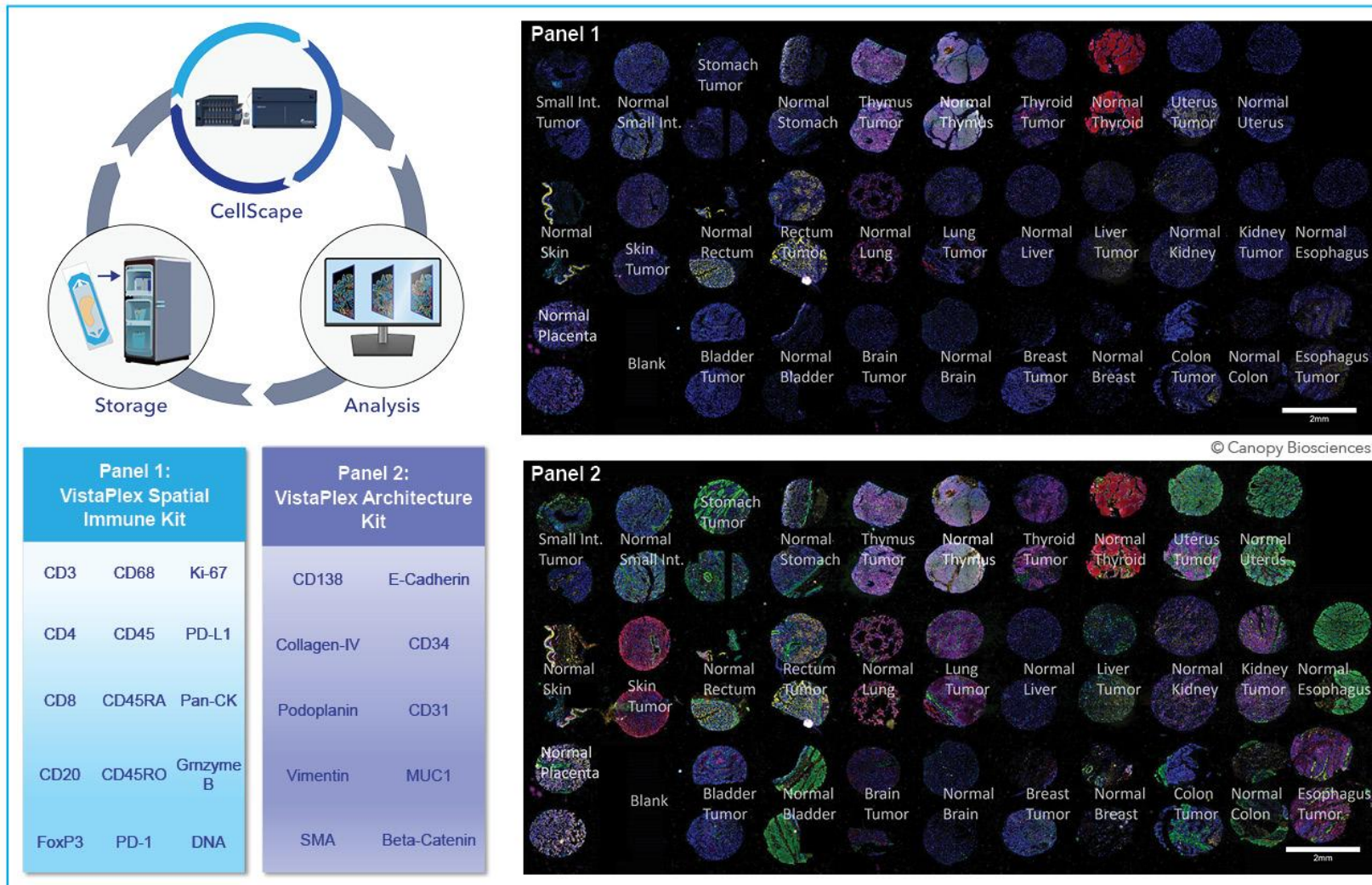


Mouse



NHP

A modular and hypothesis-driven approach to spatial biology



Types of Multiplex Antibody Chemistry

Open-source antibody chemistry unlocks a range of options

Primary labelled antibodies

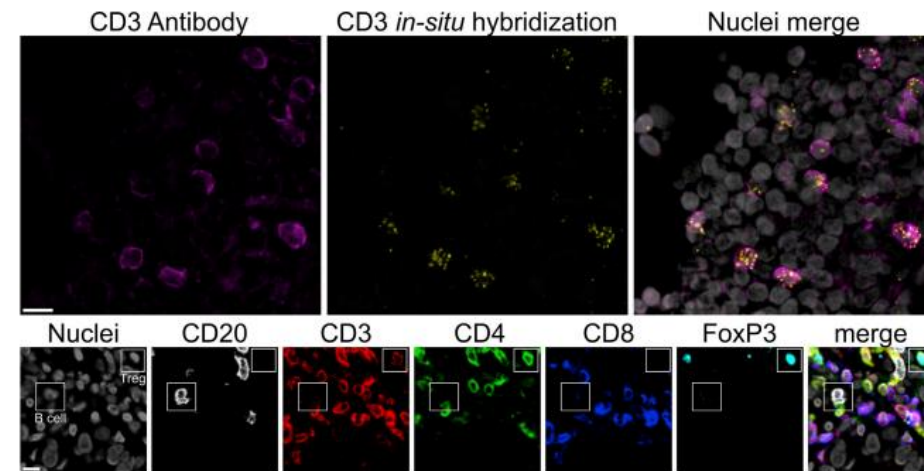
- High specificity
- Broadly available
- Easy assay development

Detection & quantification of protein and mRNA **in the same sample**

STAR Protocols Protocol

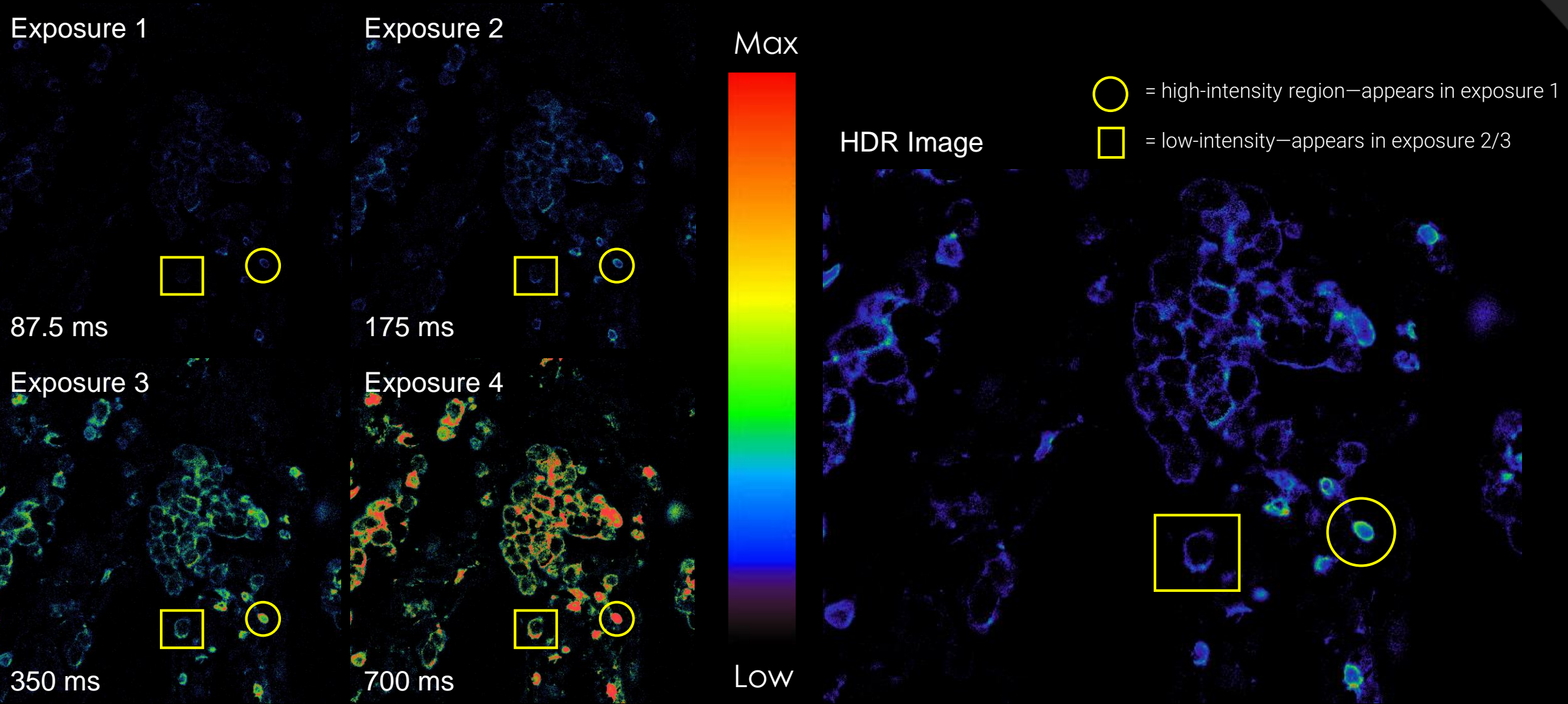
ChipCytometry for multiplexed detection of protein and mRNA markers on human FFPE tissue samples

CellPress
OPEN ACCESS



Canopy leverages protocols that result in the **highest quality data** with **easiest assay validation**

Long Exposures are Necessary to Show Full Range of Staining Intensity

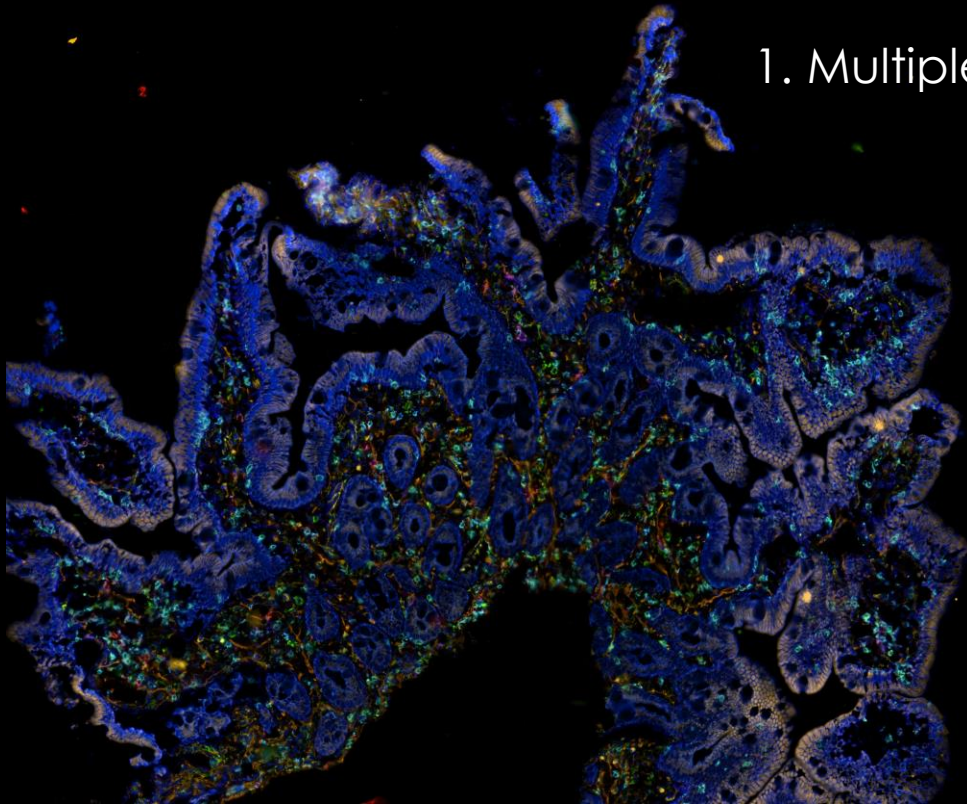




CellScape Overview

Generate Quantitative Single-Cell Data on In-Tact Tissue Samples

1. Multiplexed Imaging



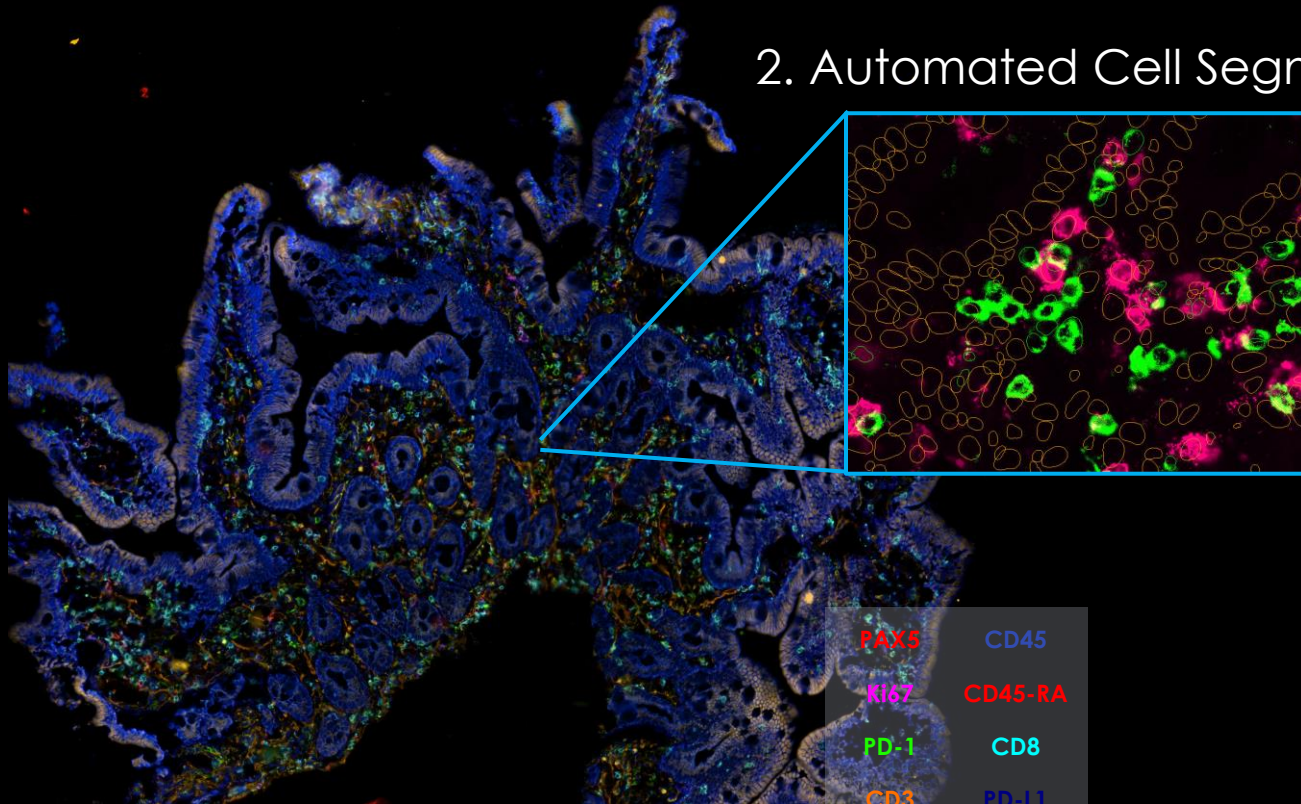
21-plex on
Colon FFPE



CellScape Overview

Generate Quantitative Single-Cell Data on In-Tact Tissue Samples

2. Automated Cell Segmentation

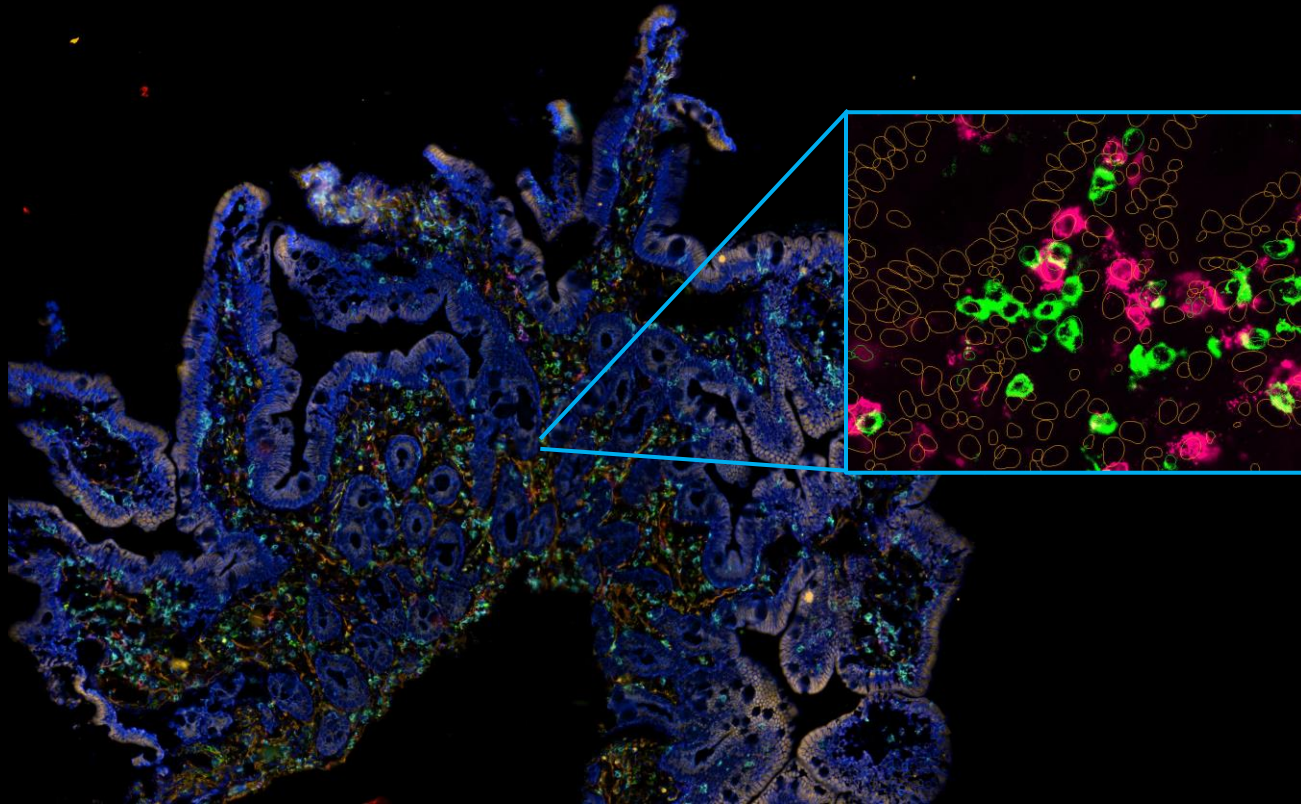


- | | |
|------|---------|
| PAX5 | CD45 |
| Ki67 | CD45-RA |
| PD-1 | CD8 |
| CD3 | PD-L1 |
| CD20 | DNA |
| CD4 | |

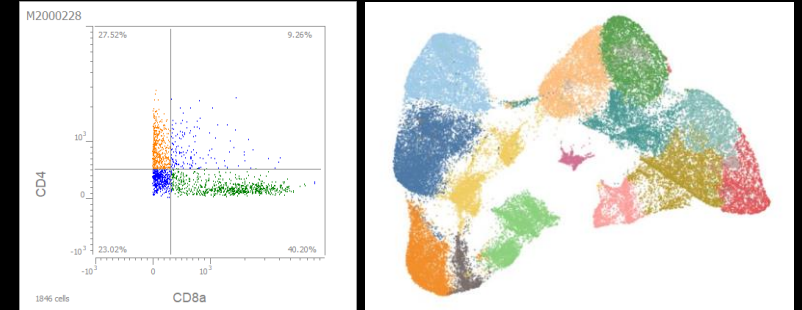
21-plex on
Colon FFPE

CellScope Overview

Generate Quantitative Single-Cell Data on In-Tact Tissue Samples



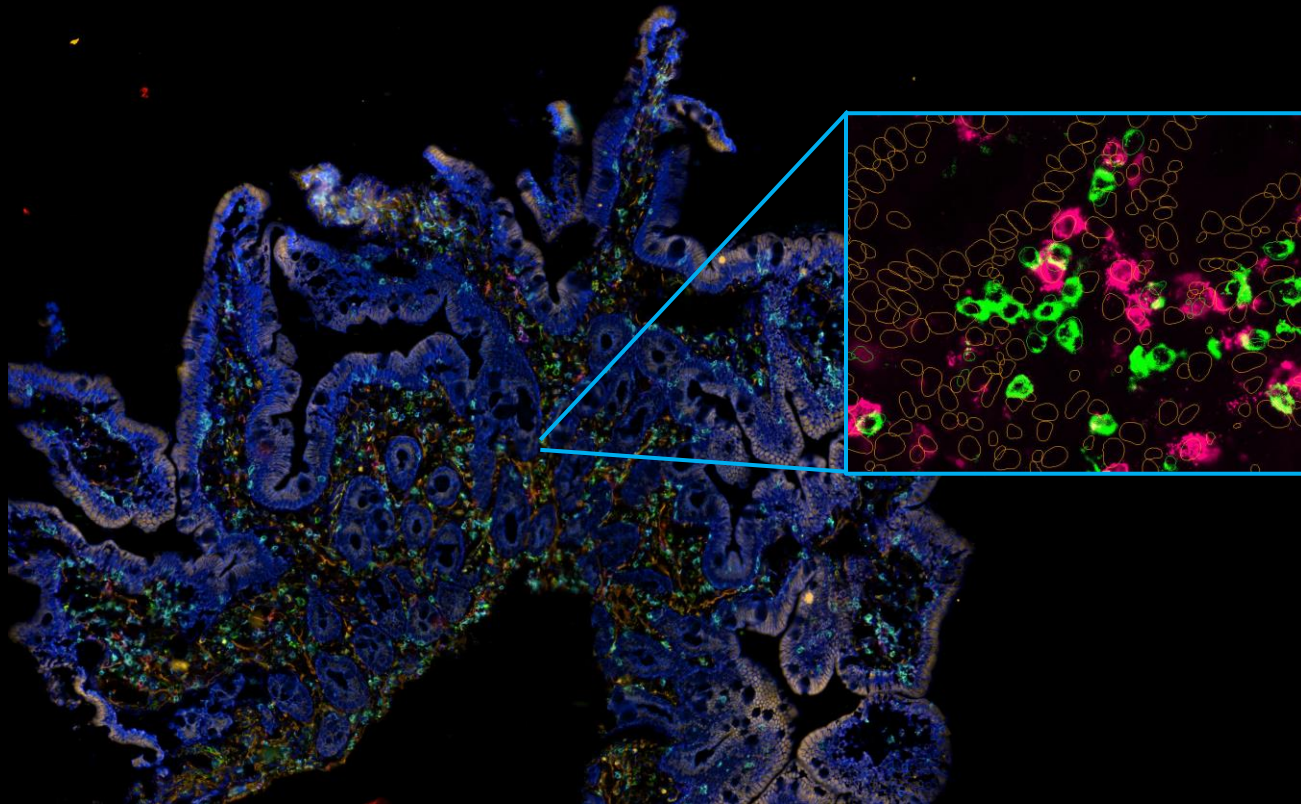
3. Phenotyping (Gating/Clustering)



21-plex on
Colon FFPE

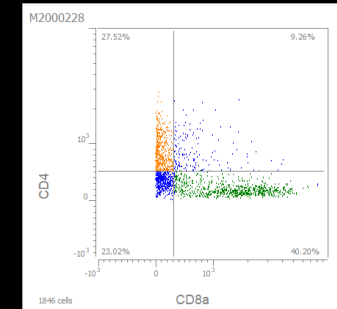
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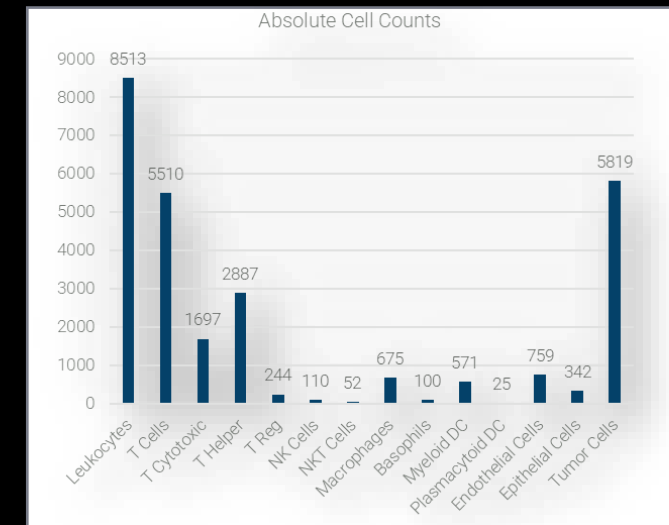


21-plex on
Colon FFPE

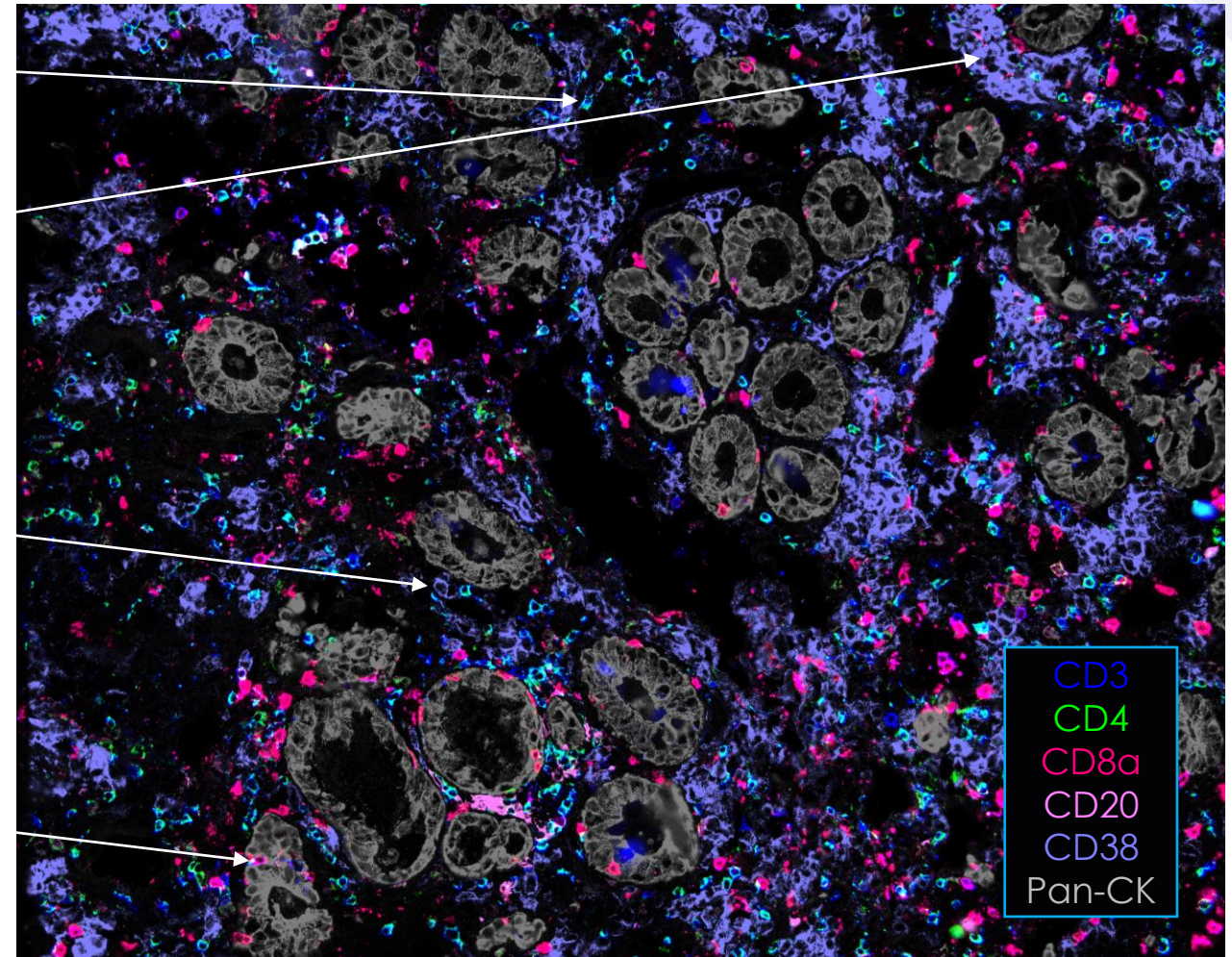
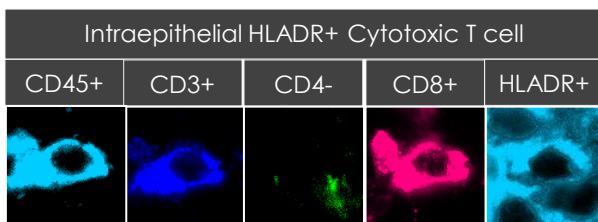
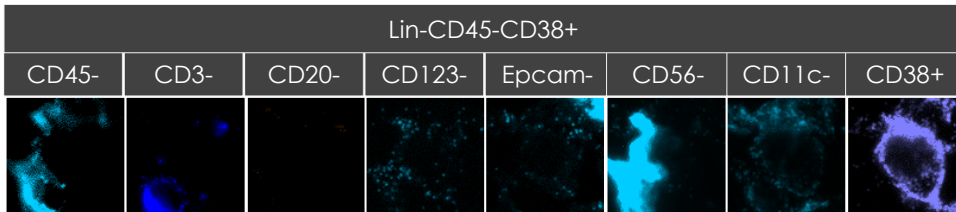
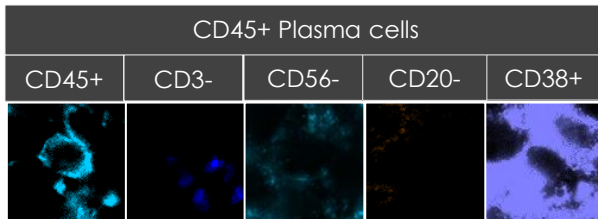
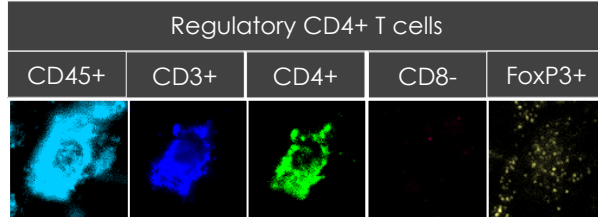
19 July 2024



4. Population Analysis



21-Plex Active Celiac Disease human FFPE

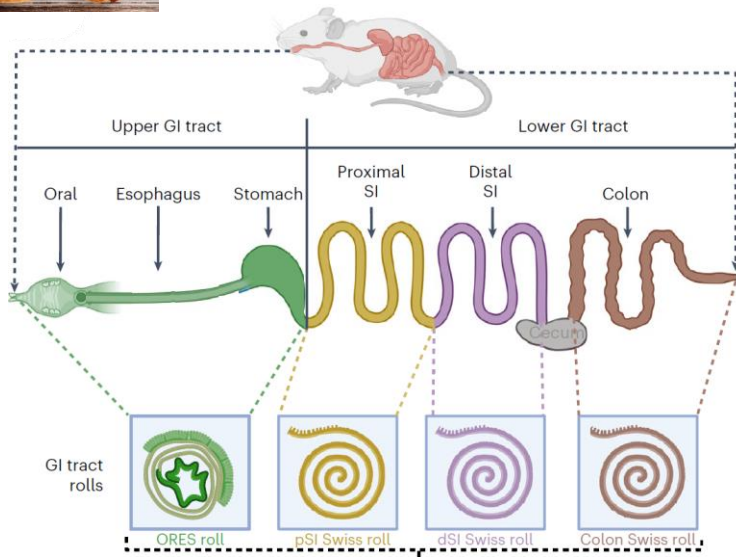




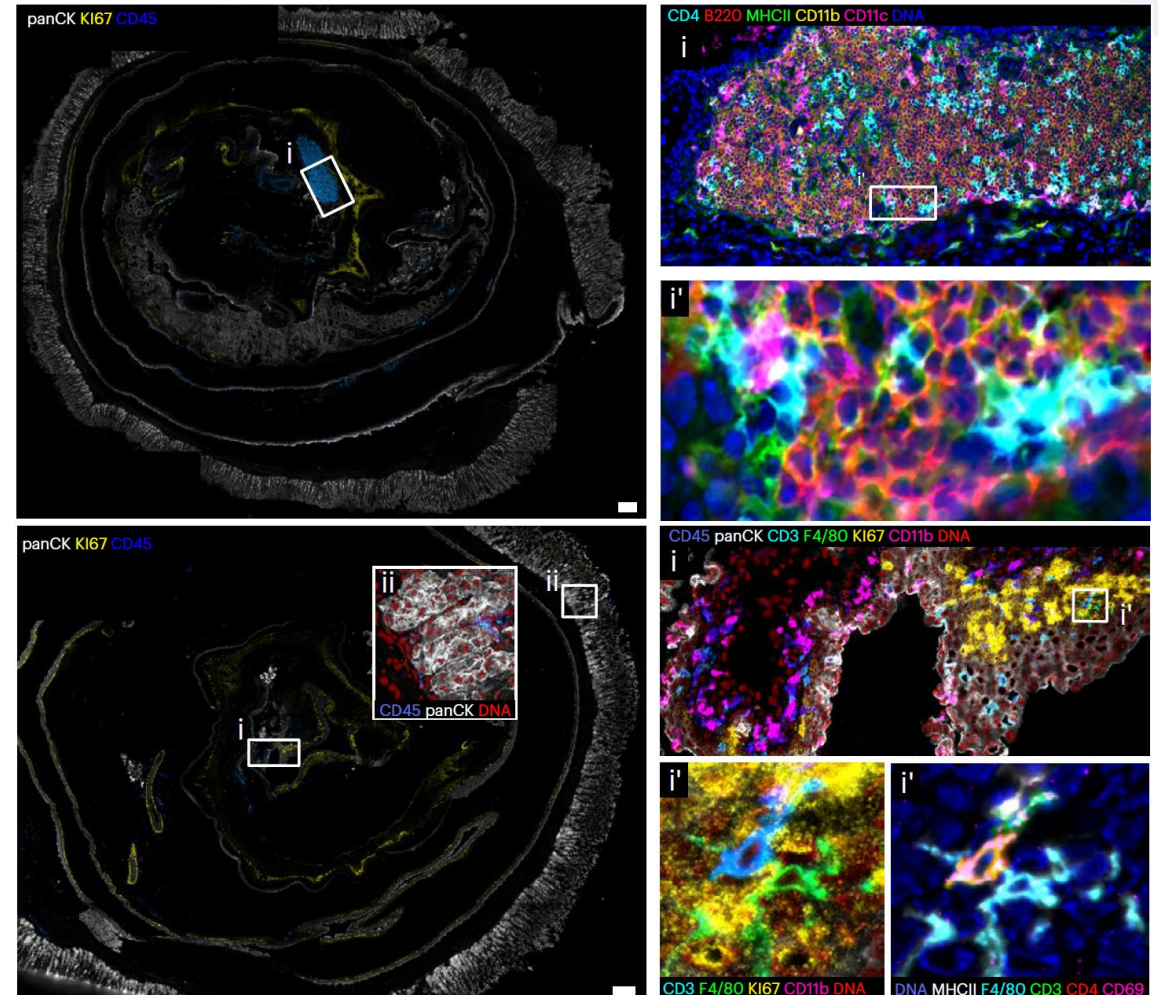
Mouse fresh frozen 18-plex, GI tract rolls



CellScape™
PRECISE SPATIAL MULTIPLEXING



Gustavo Monasterio, et al.
Nat Protoc . 2024 Jun 21





CellScape

The reality of getting to differentiated, quantitative results at high throughput with low hassle

Key Features of Canopy Cellscape

Multiple industry-leading performance advancements

HIGH OPTICAL RESOLUTION
HIGH DYNAMIC RANGE
VERY HIGH MULTIPLEX
MULTI-SAMPLE RUNS
WHOLE SLIDE IMAGING
VALIDATED PANELS
WALKAWAY AUTOMATION
FLEXIBLE, EASY PROTOCOLS

The Differentiating Truth That Matters

Differentiated, Quantitative Performance

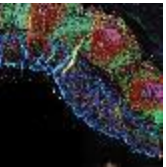
Fast Time to Result, High Throughput

Straightforward, Reliable Technique

High-Plex Capability Actually Realized

Why You Should Really Care

See *all* the spatial neighborhood/
Phenotype completely



Get productive sooner
without lengthy assay development



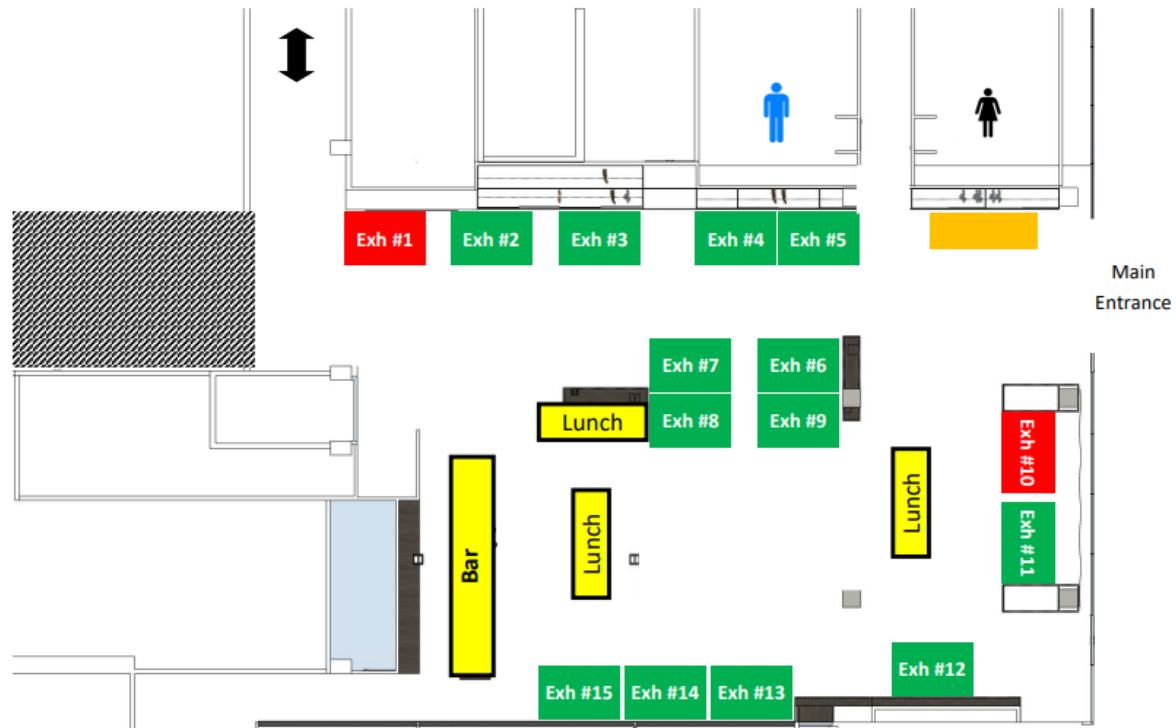
Confidence to get results at *whatever* plex and marker choices you want





Come talk to us at booth #1

International Spatial Biology Congress - Floor Plan





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