



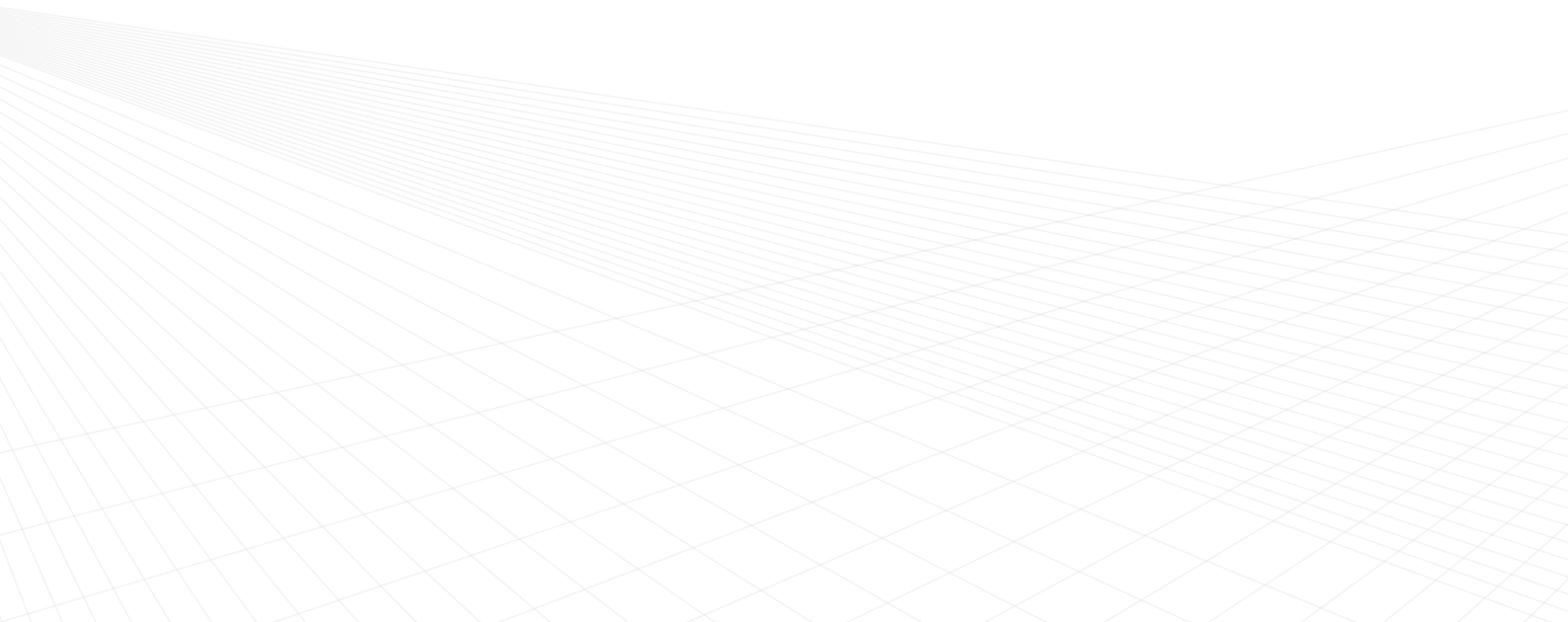
IMAGING

Unlocking  
**new views** in  
spatial biology

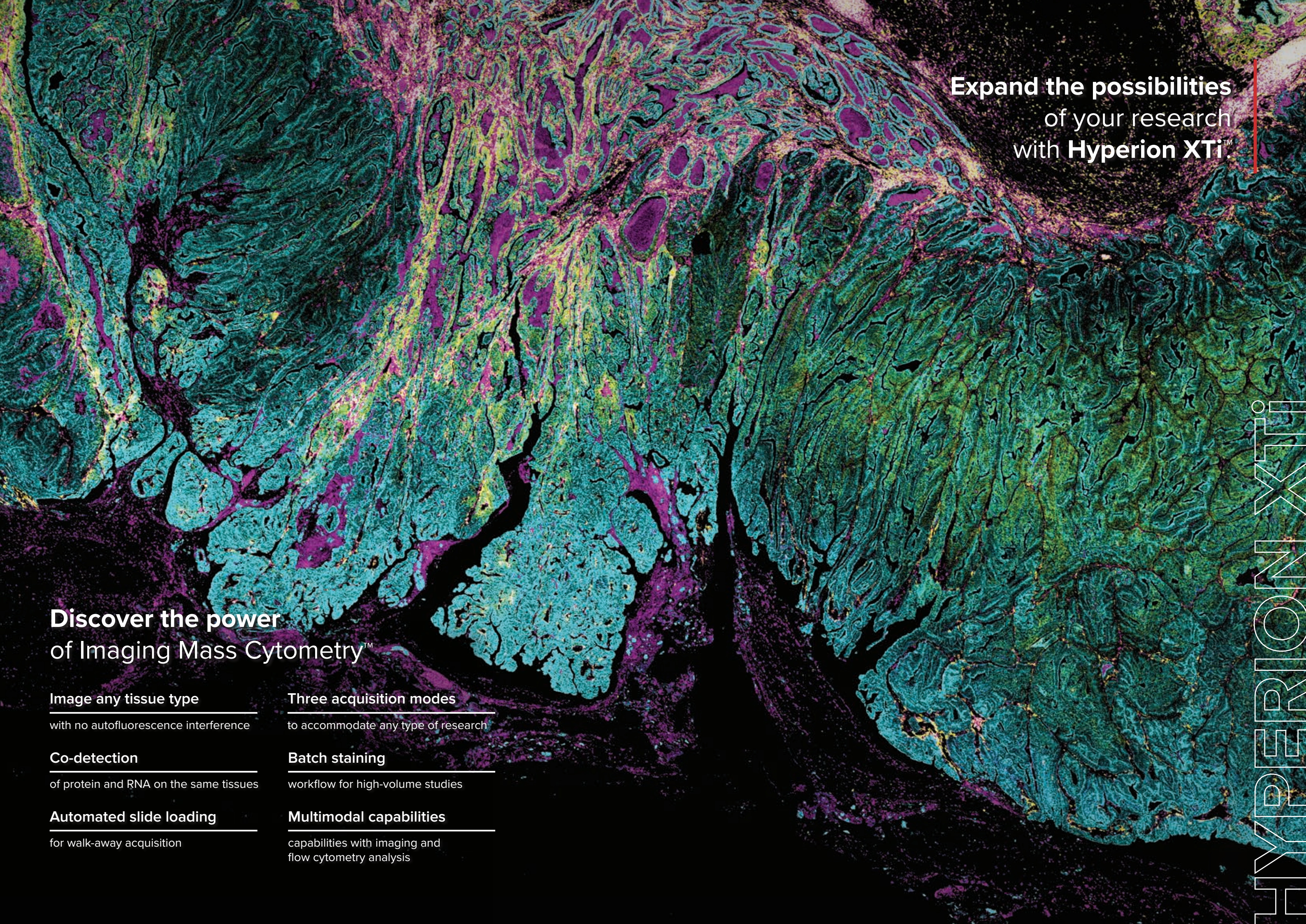
Hyperion **XTi**  

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IMAGING SYSTEM







Expand the possibilities  
of your research  
with **Hyperion XTi™**

## Discover the power of Imaging Mass Cytometry™

### Image any tissue type

with no autofluorescence interference

### Co-detection

of protein and RNA on the same tissues

### Automated slide loading

for walk-away acquisition

### Three acquisition modes

to accommodate any type of research

### Batch staining

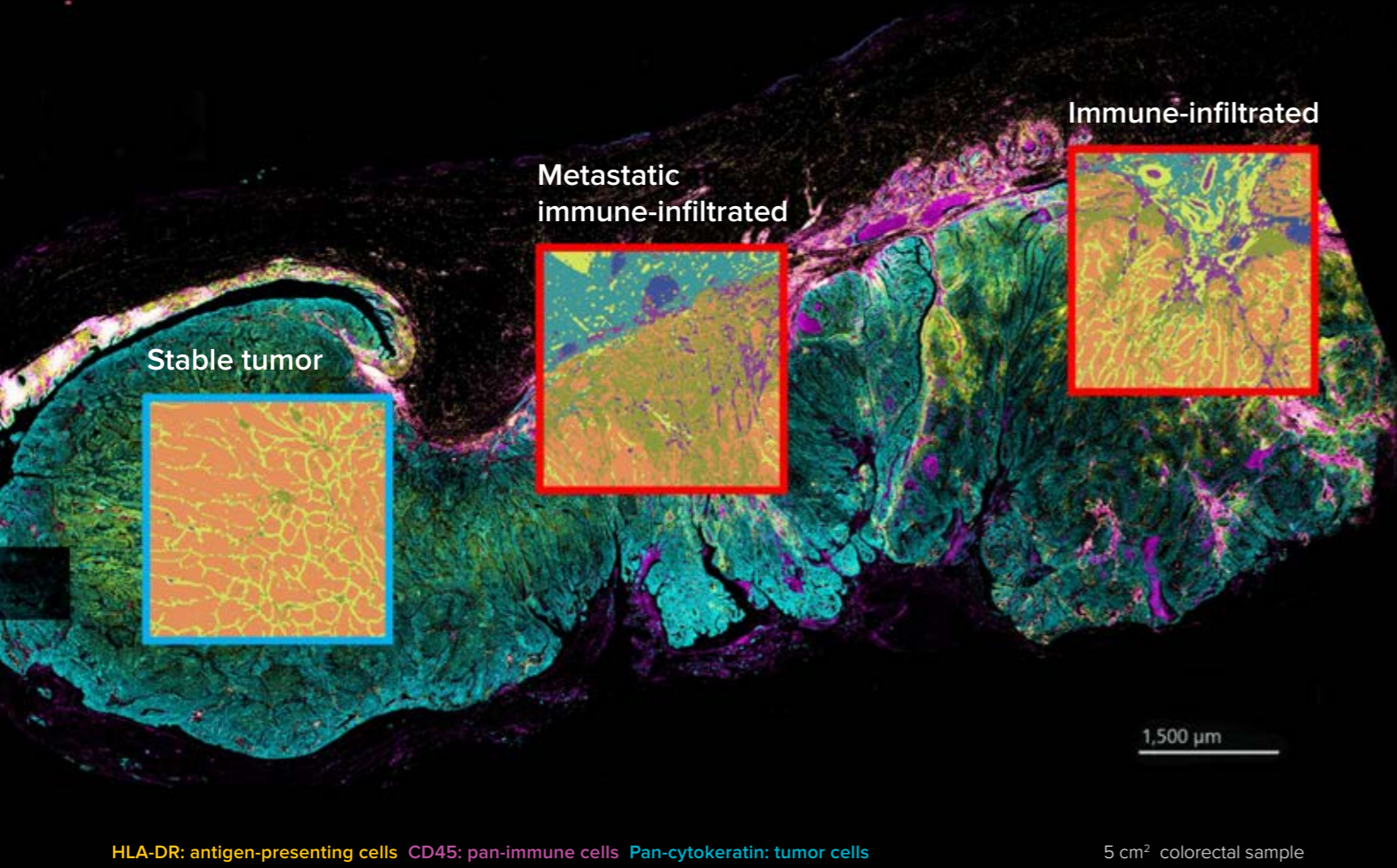
workflow for high-volume studies

### Multimodal capabilities

capabilities with imaging and  
flow cytometry analysis

HYPERIONXTI

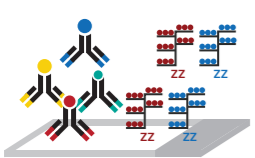




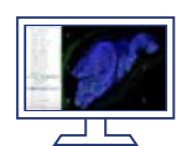
## Visualize 40-plus markers in real time.

Understanding the complex tissue microenvironment is essential to the timely evaluation of disease progression and the response to therapeutics. Imaging Mass Cytometry (IMC™) uniquely enables 40-plus protein and RNA markers to be **simultaneously acquired and visualized**, without time-consuming acquisition cycles.

### A ONE-STEP MULTIPLEXED IMAGING APPROACH



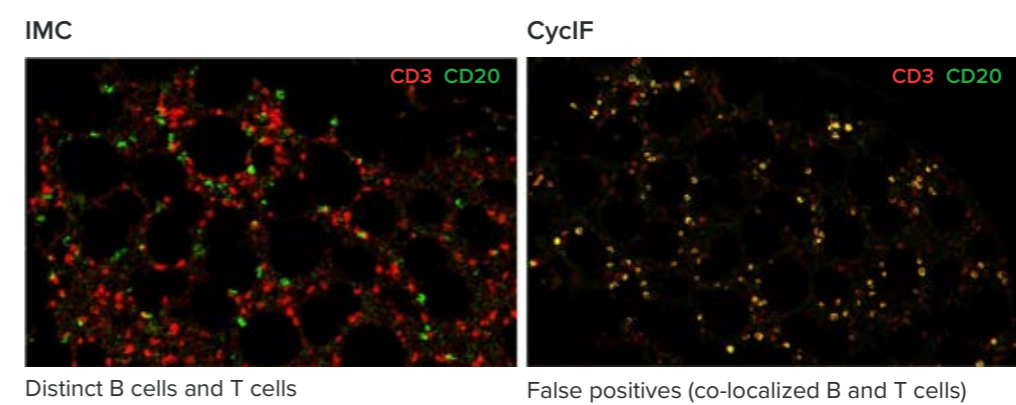
Simultaneous detection  
n=40-plus markers



Real-time data

## Interpret data with confidence.

Quality and clarity of data are critical when deriving biological insights from limited, precious tissue samples. Clearly define areas **in any tissue type** – including lung, bone marrow, colon and brain – without autofluorescence interference. Imaging Mass Cytometry utilizes metal-tagged antibodies, instead of fluorophores, eliminating background autofluorescence and spectral overlap.



In bone marrow, cyclic immunofluorescence (cyclIF) data (right) shows false positives, highlighted by co-localization of B cells (CD20+) and T cells (CD3+) (yellow). Conversely, distinct B cells (green) and T cells (red) can be seen with IMC (left).

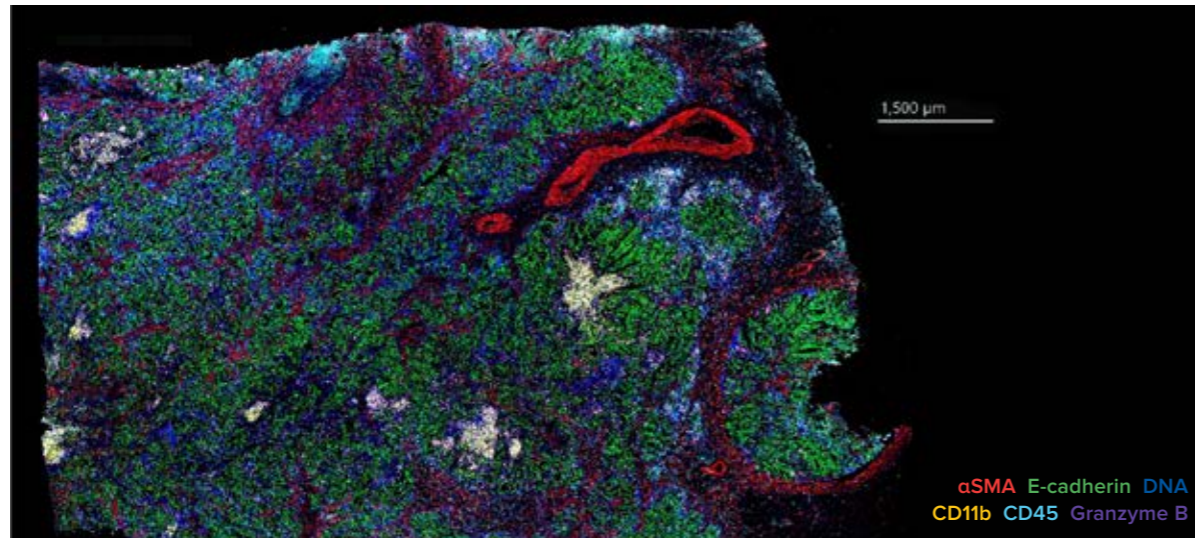


# Three imaging modes to accommodate any research

Multiplexed spatial mapping – without compromising speed.

## 1 PREVIEW

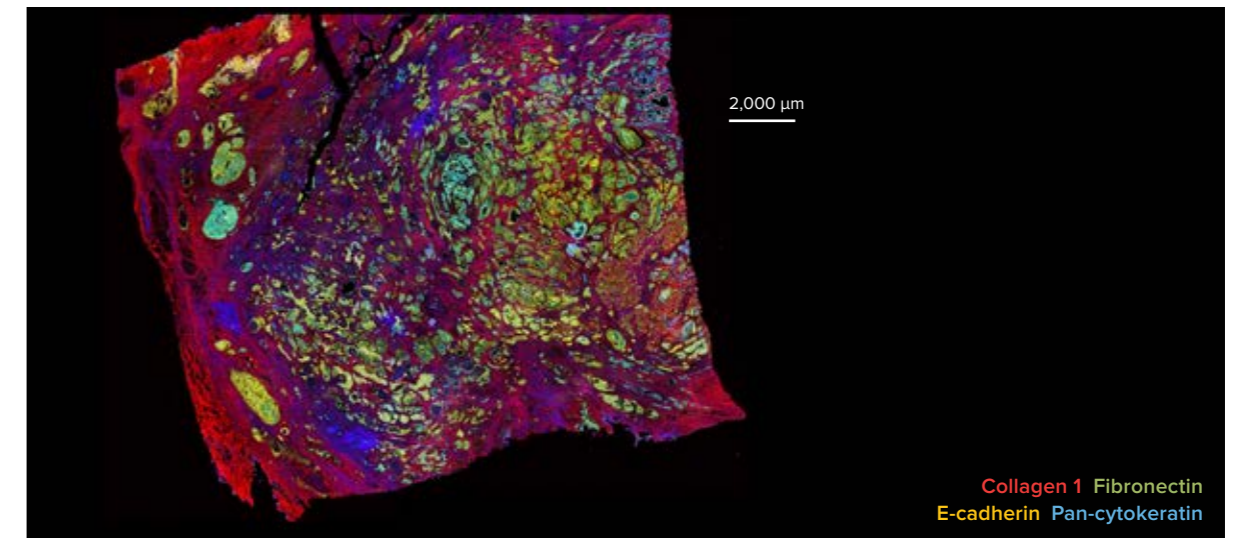
Quickly scan your tissue to preview the whole slide in 20 minutes. Make quick decisions to identify regions of interest and subsequent acquisition mode(s).



Number of markers: 42 | Acquisition time: 20 minutes | Resolution: 1 μm subsampling (28-pixel spaces) | Tissue: colon cancer

## 3 TISSUE

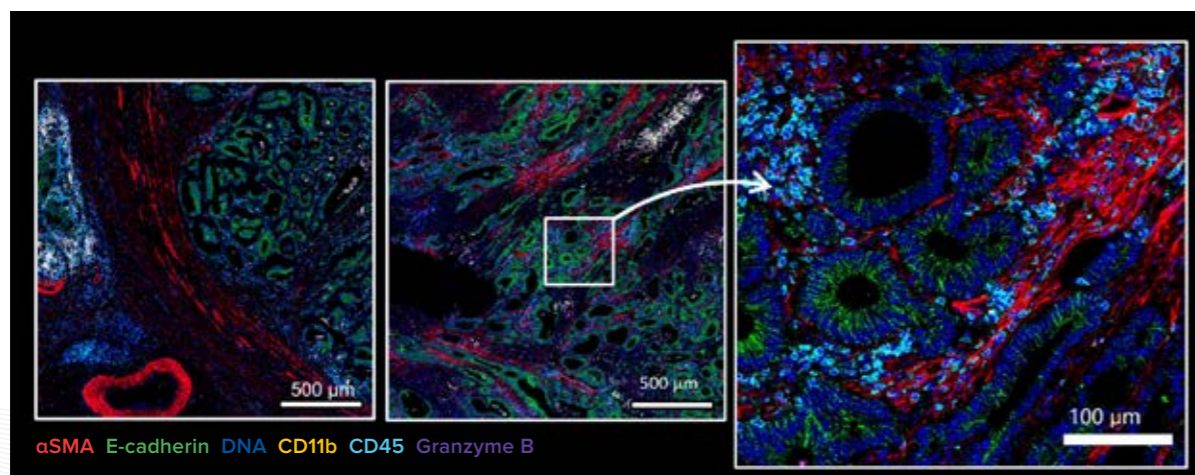
Visualize heterogeneity with whole slide tissue imaging.



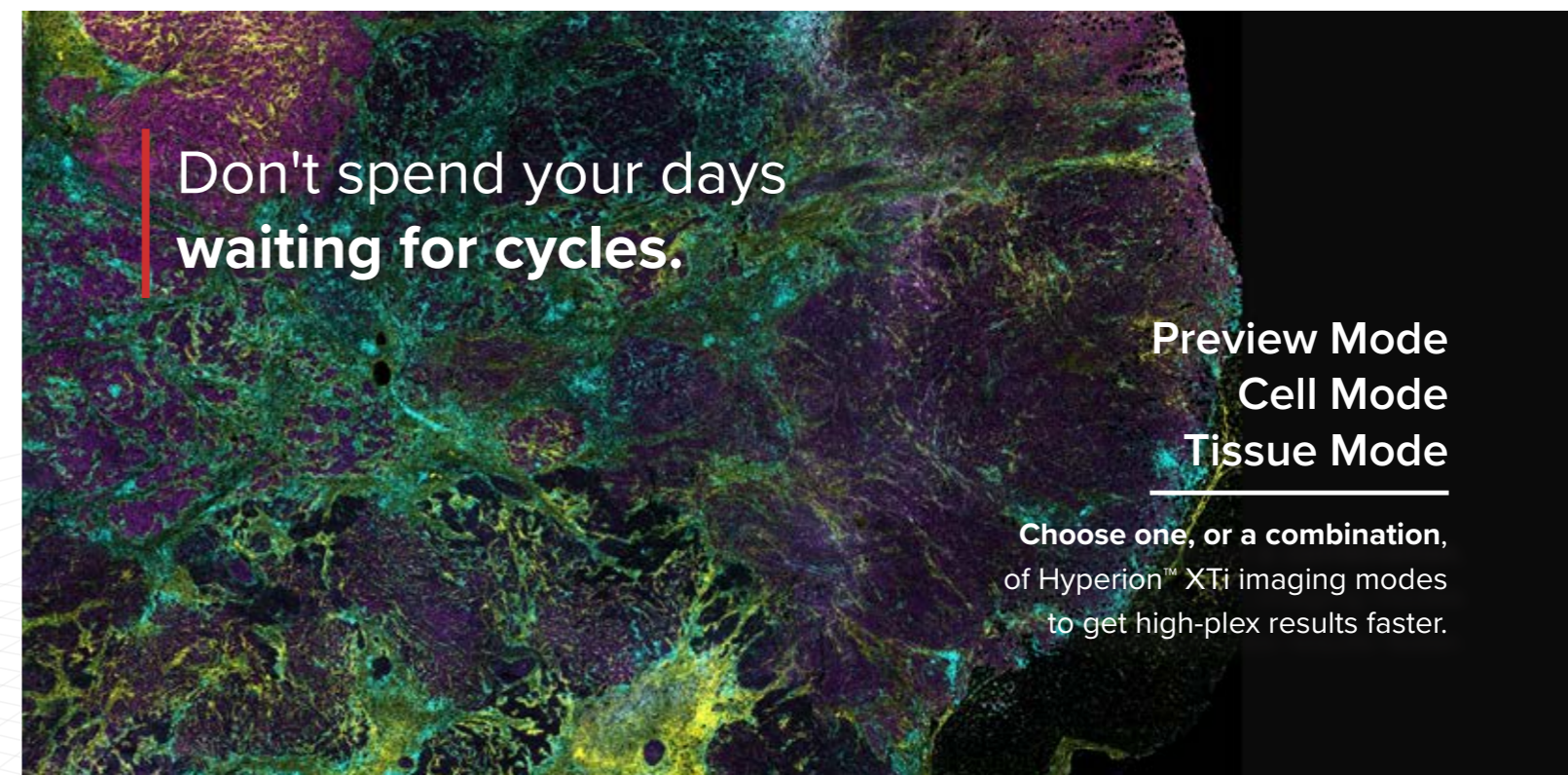
Number of markers: 41 | Acquisition time: 5 hours and 7 minutes | Resolution: 5 μm | Tissue: prostate cancer

## 2 CELL

Dig deeper within regions of interest at single-cell resolution.



Number of markers: 42 | Acquisition time: 2 hours | Resolution: 1 μm | Tissue: colon



Don't spend your days waiting for cycles.

- Preview Mode
- Cell Mode
- Tissue Mode

Choose one, or a combination, of Hyperion™ XTi imaging modes to get high-plex results faster.

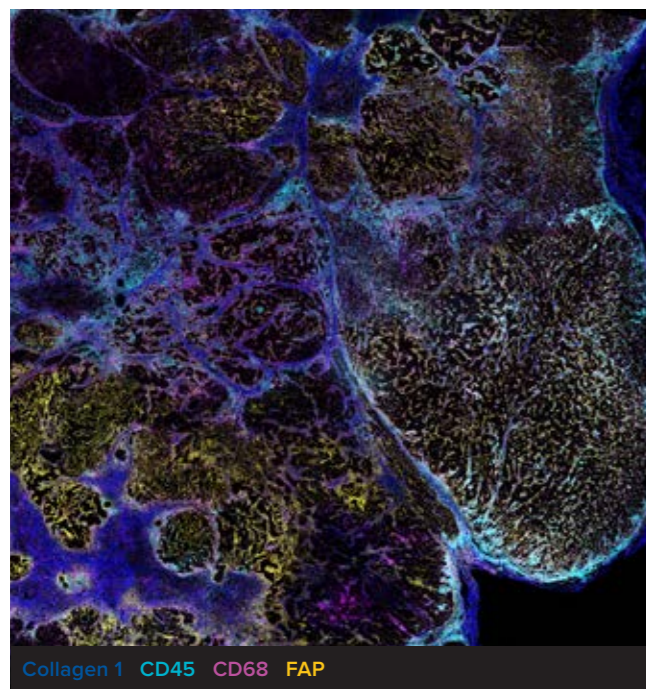


# Ready-to-go panels that simplify spatial biology

## START WITH APPLICATION-SPECIFIC PANELS

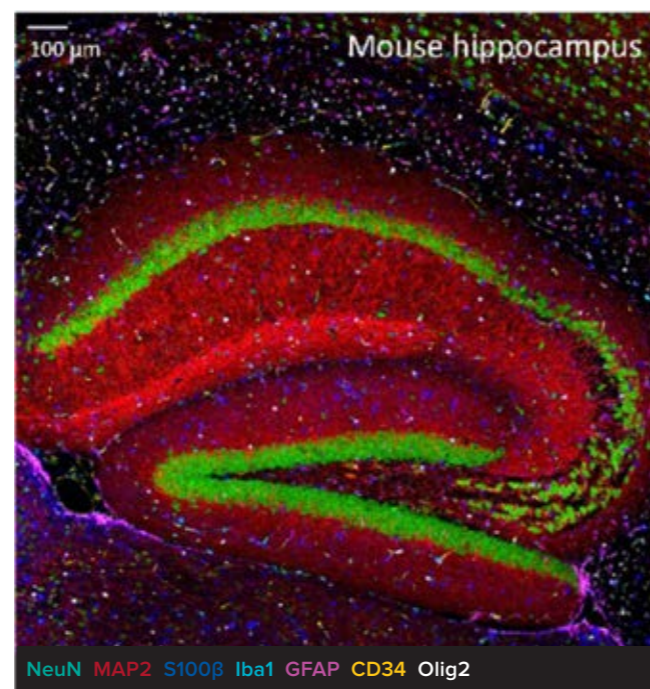
Choose from over 15 panels to easily target 40-plus markers.

### Immuno-oncology



The Human Immuno-Oncology IMC Panel, 31 Antibodies and the Human Immune Cell Expansion IMC Panel, 7 Antibodies were combined to interrogate the tumor microenvironment in breast cancer. This identified numerous cell types such as cancer-associated fibroblasts (FAP) and lymphoid (CD45) and myeloid (CD68) cells as well as epithelial-to-mesenchymal markers, cell functional states and tissue architecture identification.

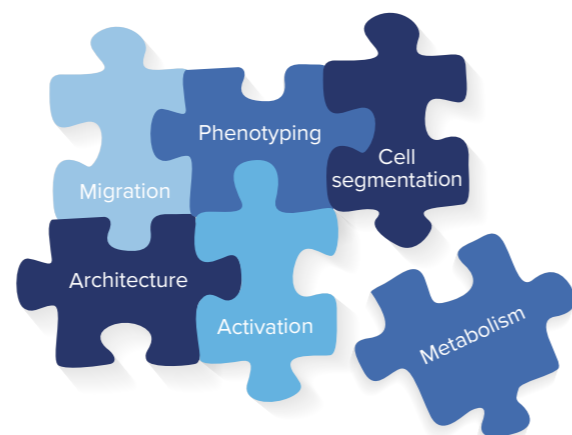
### Neuroscience



The Maxpar Neuro Phenotyping IMC Panel Kit identifies distinct spatial positioning of major brain cell lineages in a normal mouse hippocampus FFPE sample. Scale bar size = 100 μm. Image size = 1,600 x 1,600 μm

Easily combine panels or customize targets of interest.

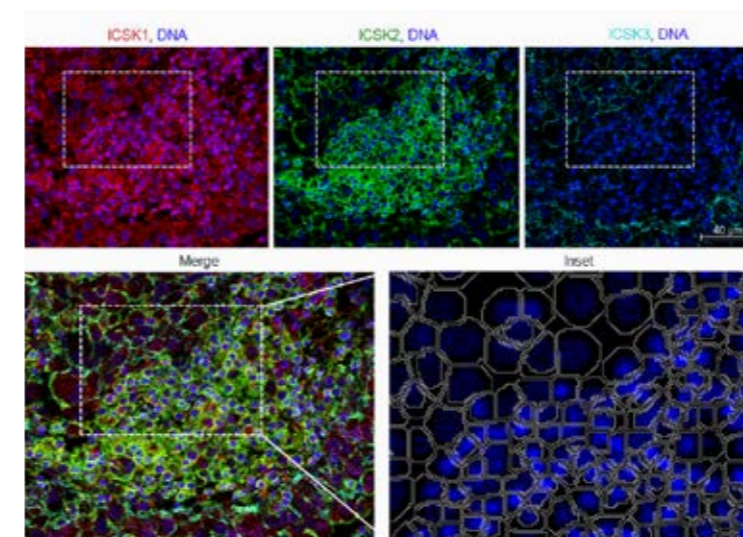
Review the full list of imaging panels [here](#).



## ADD CELL SEGMENTATION

Solving the most important step in spatial imaging.

The Maxpar® IMC Cell Segmentation Kit simplifies quantitative single-cell analysis in which cell types, cellular functions and intra- and intercellular processes can easily be defined.



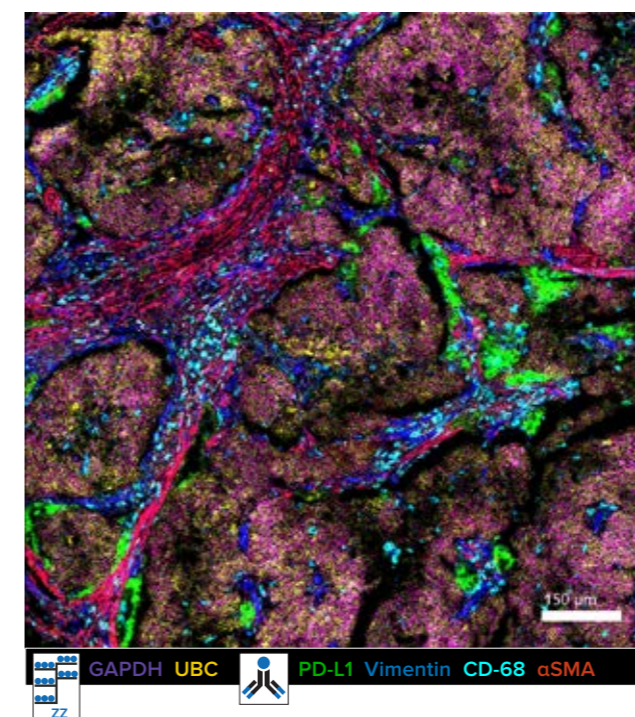
The Maxpar IMC Cell Segmentation Kit contains three markers that can easily be added to existing panels.

Human formalin-fixed, paraffin-embedded non-small-cell lung cancer tissue stained with the Maxpar IMC Cell Segmentation Kit. Scale bar is 40 μm. Red, ICSK1; green, ICSK2; teal, ICSK3; blue, DNA stain. Cell segmentation was generated using Visiopharm® Phenoplex™ software.

## GET DEEPER INSIGHTS WITH RNA CO-DETECTION

Combine spatial phenotyping with knowledge of the cell's transcriptome.

Detect protein and RNA on the same tissue sample to correlate transcriptional signatures and spatial context of pathogens, host cells or protein sources. Quantify mRNA, proteins and post-translational modifications to expand knowledge of cellular networks and cell type-specific gene expression.



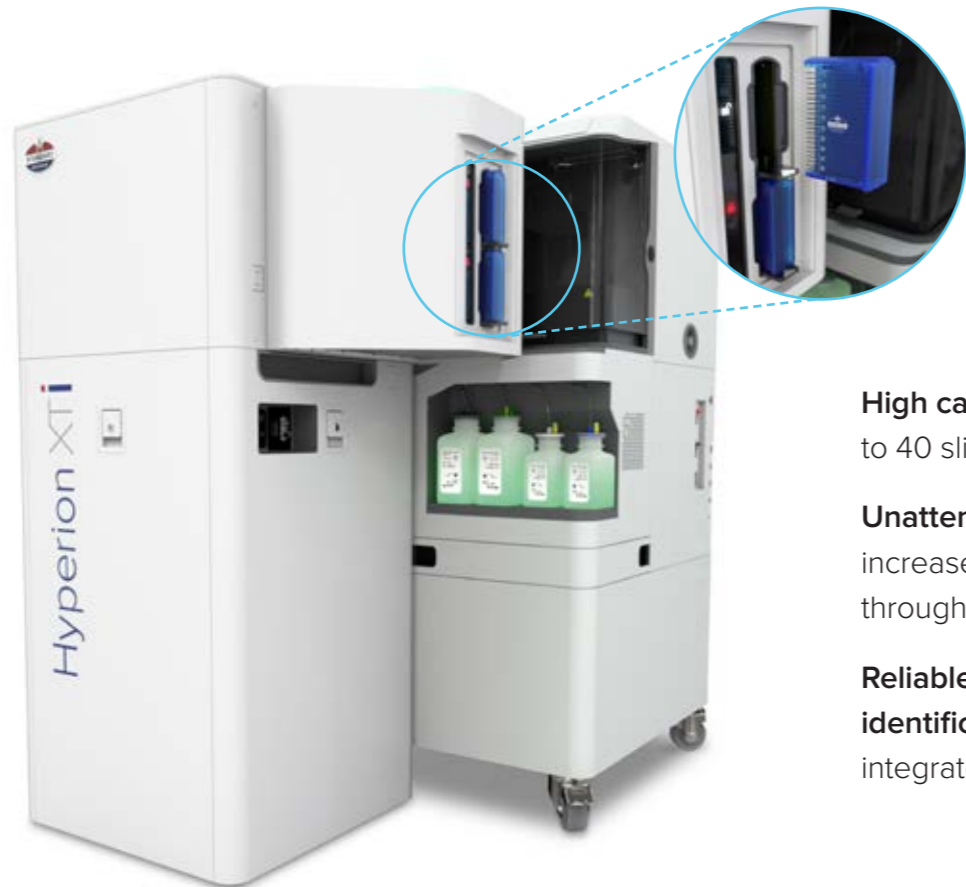
This image highlights RNA and protein co-detection in lung squamous cell carcinoma using the Hyperion XTi Imaging System and a 33-marker panel combined from three ready-to-go reagent kits.



40 slides | 40+ markers | 24 hours

### WALK-AWAY AUTOMATION

Incorporating a new level of throughput and efficiency, an integrated slide loader enables researchers to **load up to 40 slides and walk away.**



**High capacity** to load up to 40 slides at once

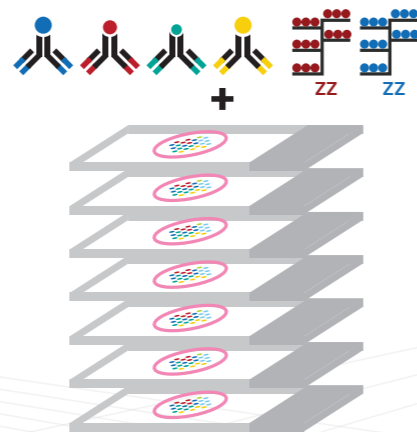
**Unattended acquisition** increases sample throughput 2–3x.

**Reliable sample identification** with integrated barcode reader

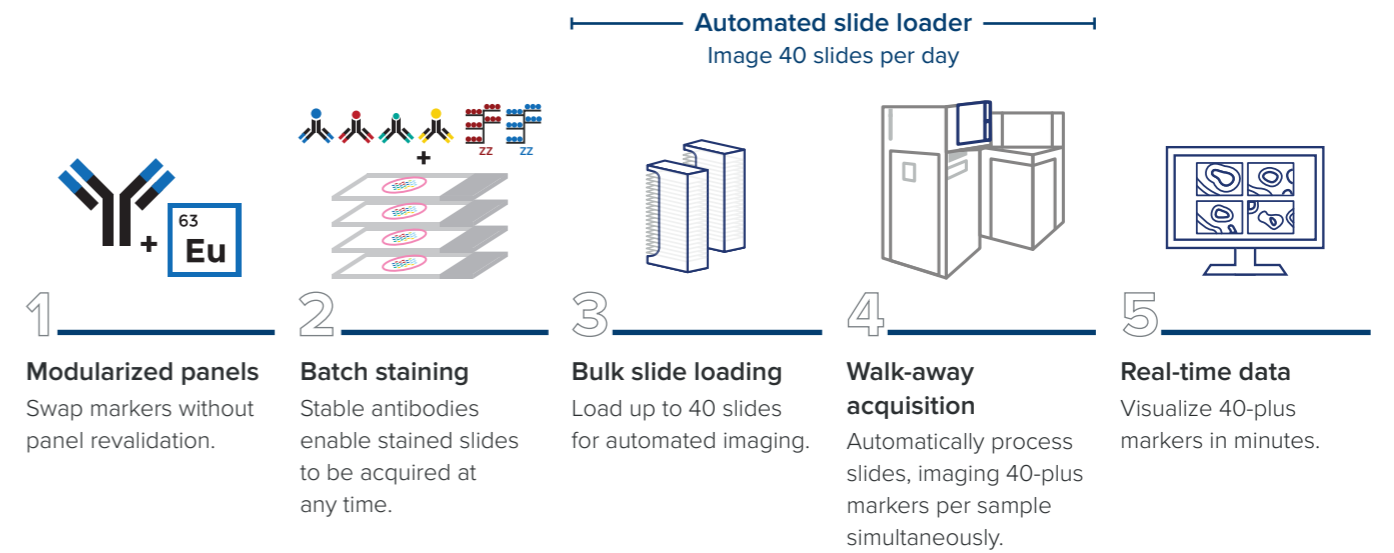
### ALL-AT-ONCE STAINING

IMC uniquely enables a stain all-at-once approach to streamline experiment workflows.

Large batches of slides can be stained simultaneously to eliminate batch effects and technical variation, then stored until you are ready for analysis.



## A workflow to get results faster

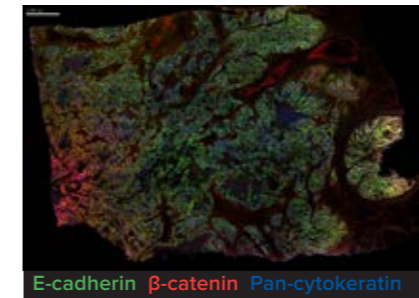


## Analysis templates so you can work smarter.

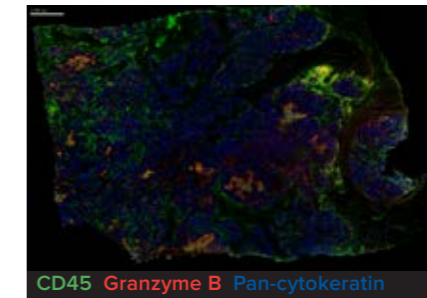
Accelerate data analysis using quick-view templates from MCD™ SmartViewer. These templates allow you to **swiftly interpret** high-plex data, getting you results faster.

### Quick views

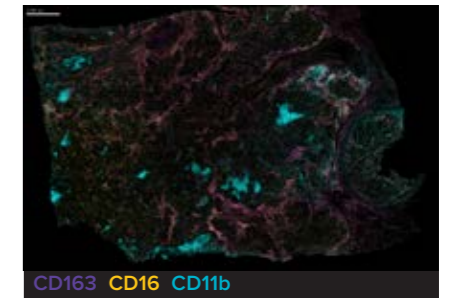
Metastatic transformation



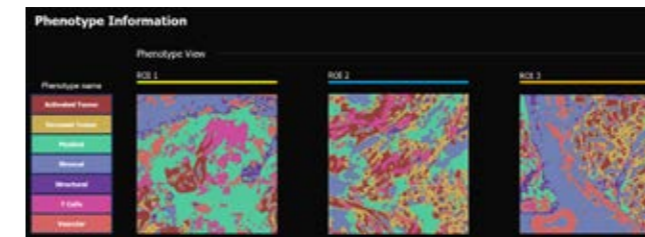
Immune cell infiltration and activation



Myeloid immune cell infiltration



Phenotype analysis



Neighborhood



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