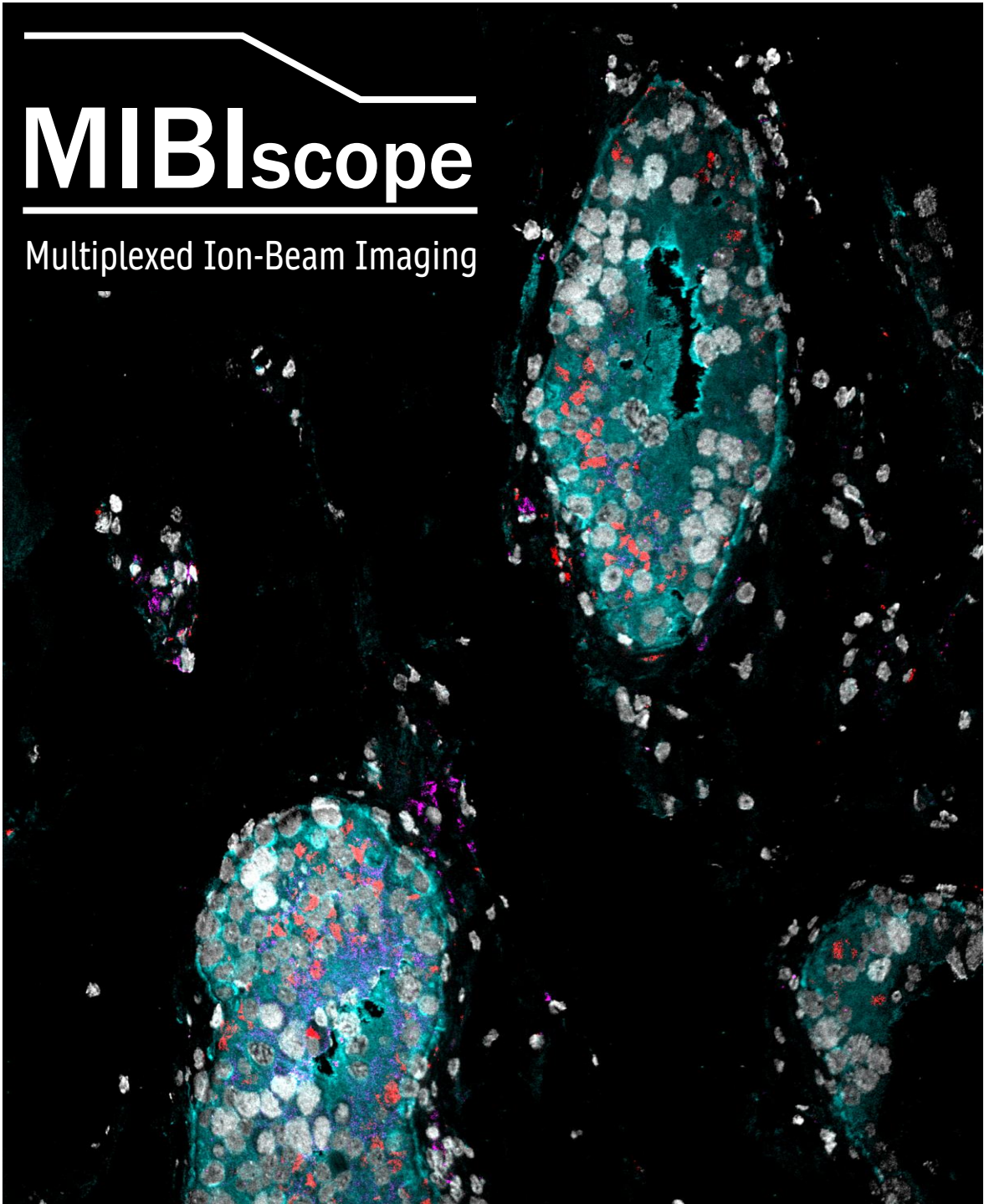


MIBIscope

Multiplexed Ion-Beam Imaging



Contact Us:

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MIBIscope

summary

Couple multiplexed imaging and machine learning to probe the microenvironment of pathological tissues at the single-cell level.

What we offer, is a **Research Service** that includes everything from experimental design and staining of specimens to reporting results using advanced computation methods.

- Panel selection and validation
- Image acquisition, processing and segmentation
- Unbiased machine learning tools for:
 - Single-cell analysis
 - Immune-profiling
 - Spatial analysis
 - Differential analysis
- Turn-key and custom analysis pipelines
- Easy to interpret reports

MIBIscope enables high-definition spatial proteomics, and is a powerful research tool for visualization, quantitation and discovery.

Visualize

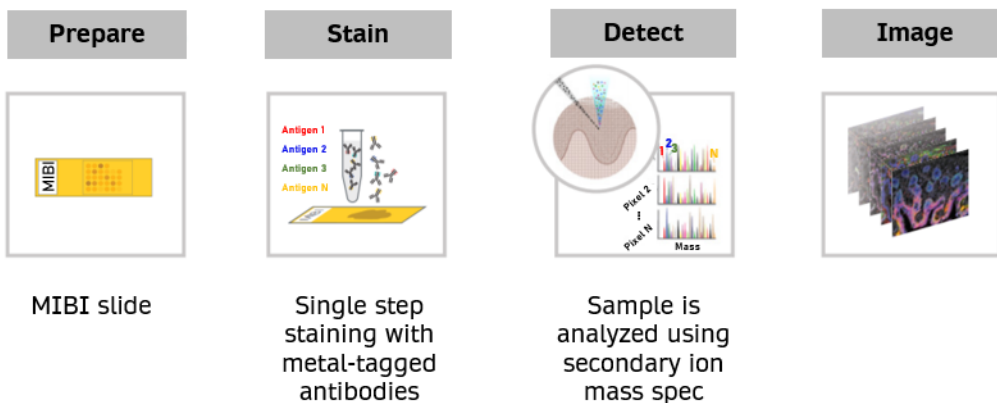
Quantify

Discover

MIBIscope system

Multiplexed Tissue Imaging

- Multiplex up to 40 markers using standard IHC protocols
- Spatial distribution is conserved within tissue
- High-resolution images from 1 μ m to 200nm
- Biomarker-based stratification of patients will inform therapy
- Perform spatial analysis of effector and target cells
- Discover novel phenotypes as they reside *in situ*
- Use validated biomarker panels supplemented with additional pre-conjugated antibodies or label any antibody of interest by conjugating your own in a straightforward protocol



Visualize

Quantify

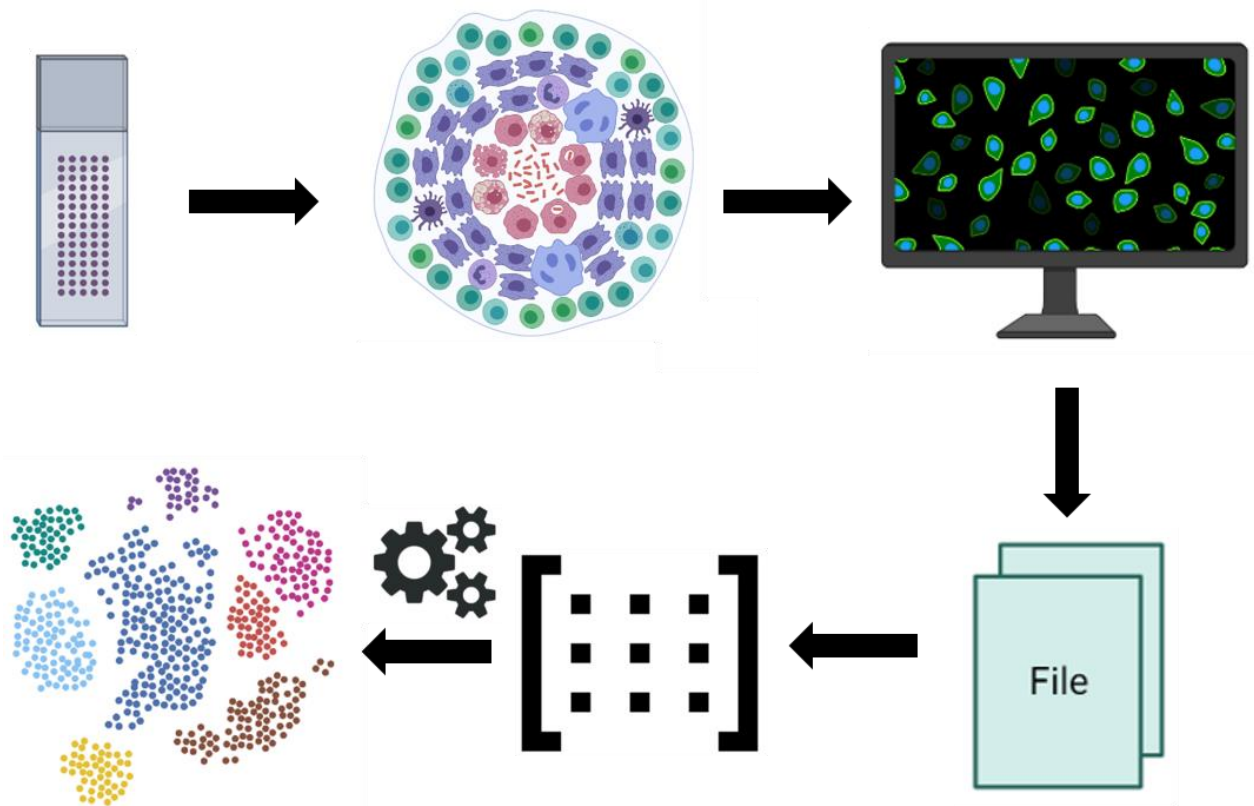
Discover

MIBIscope

services

Unbiased and unsupervised machine learning workflow:

- Data pre-processing
- Quality control
- Batch alignment
- Clustering
- Dimensionality reduction
- Statistical analysis



Visualize

Quantify

Discover

MIBIscope

panels

Validated Human Antibody Panels

	Cell Classification	Advanced Cell Classification	Checkpoint
Total Markers	16	24	30
CD3	•	•	•
CD4	•	•	•
CD8	•	•	•
CD11b		•	•
CD11c	•	•	•
CD14		•	•
CD20	•	•	•
CD31	•	•	•
CD45	•	•	•
CD45RO		•	•
CD56	•	•	•
CD68	•	•	•
CD163		•	•
β-tubulin	•	•	•
dsDNA	•	•	•
FOXP3		•	•
Granzyme B			•
HLA class 1	•	•	•
HLA DR	•	•	•
IDO1			•
Ki-67		•	•
LAG3			•
Na-K-ATPase α1	•	•	•
PD-1			•
PD-L1			•
Podoplanin		•	•
SMA		•	•
TIM-3			•
Tumour Marker	•	•	•
Vimentin	•	•	•

MIBIscope

panels

Validated Mouse Antibody Panels

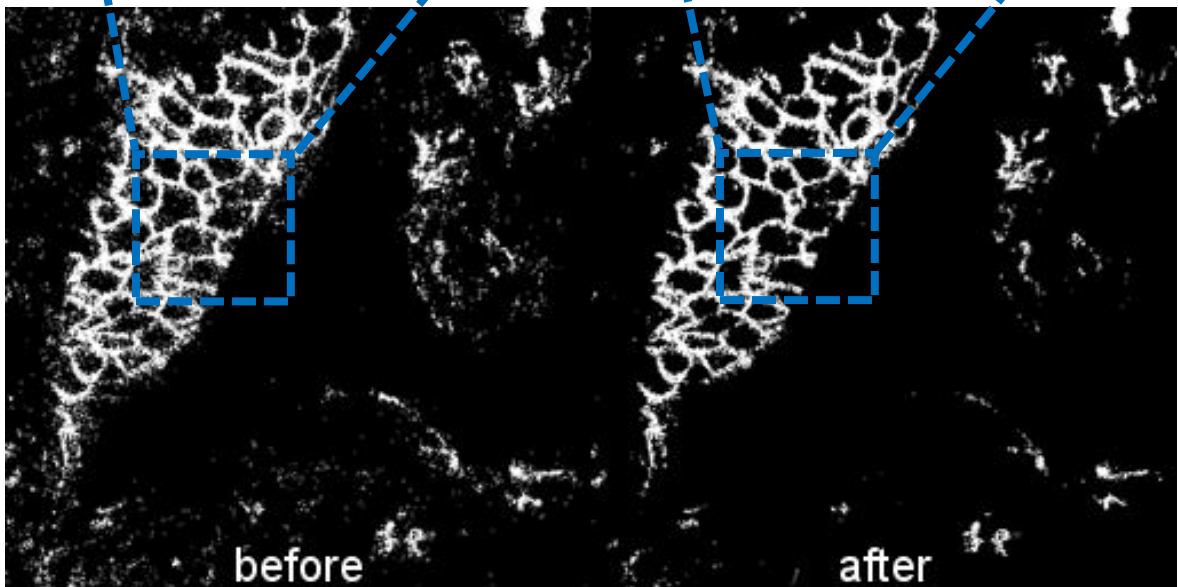
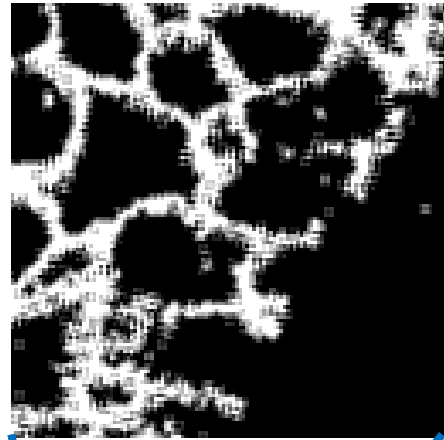
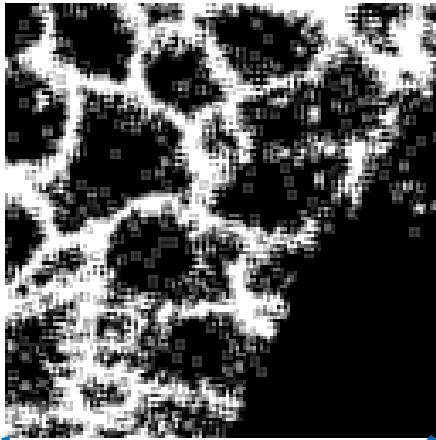
	FFPE	Frozen
Total Markers	22	6
CD3		•
CD4	•	•
CD8	•	•
CD31	•	
CD45	•	•
CD206	•	
CD11b	•	
CD11c	•	
CD3ε	•	
CD49b	•	
α-SMA	•	
β-tubulin	•	
B220	•	
CDX2	•	
dsDNA	•	
F4/80	•	
FoxP3	•	
Granzyme B	•	
IgD		•
IgM		•
Ki-67	•	
Ly6G	•	
Na/K ATPase	•	
PAX5	•	
Vimentin	•	

MIBIscope

analysis

Pre-processing of Images

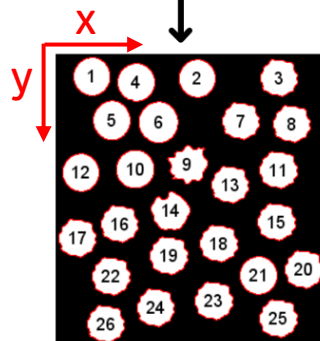
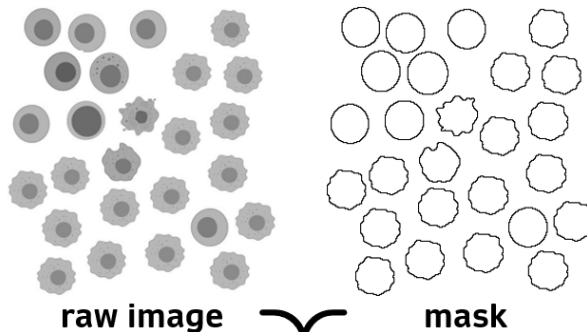
Isobaric-Correction → Filtering → Aggregate Removal



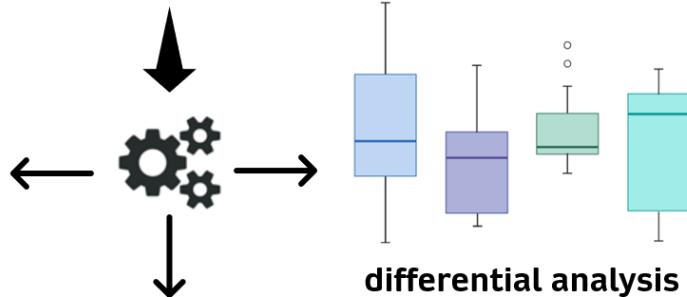
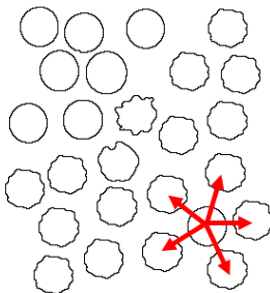
MIBIscope

analysis

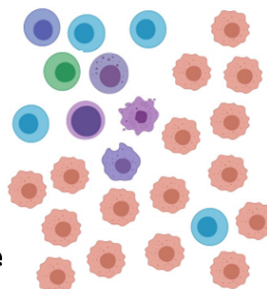
Cell Segmentation



spatial analysis



- CD8 T cell
- B cell
- CD4 T cell
- NK cell
- Tumour cell
- Macrophage



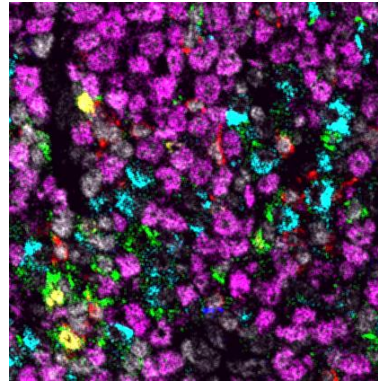
immune profile

MIBIscope

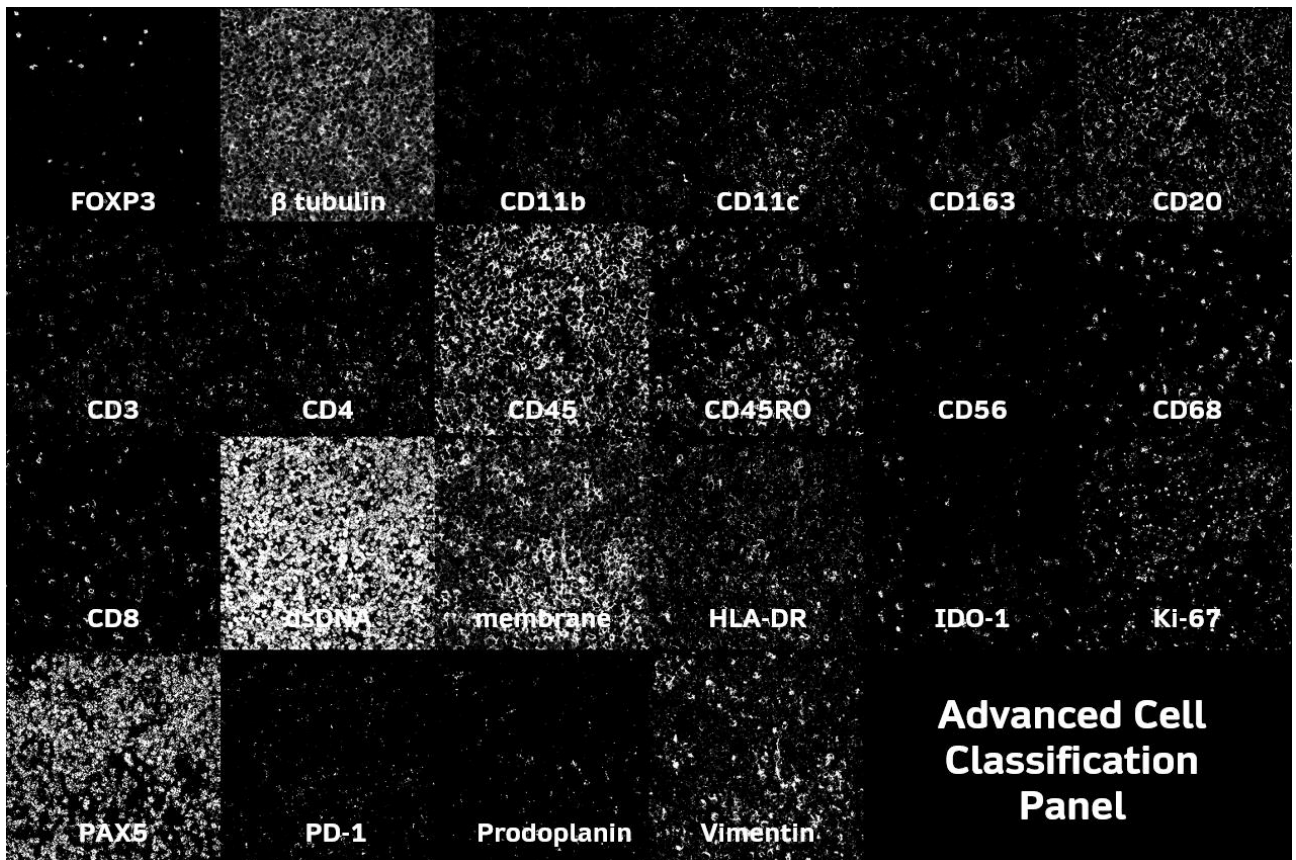
analysis

Example from B cell Lymphoma Specimen

- 400 x 400 μm FOV
- 650 nm resolution
- 17 minutes to acquire
- 22 channels per FOV



- PAX5 ●
- CD8 ●
- CD4 ●
- CD56 ●
- CD68 ●
- FOXP3 ●
- DNA ○



Advanced Cell Classification Panel

Visualize

Quantify

Discover

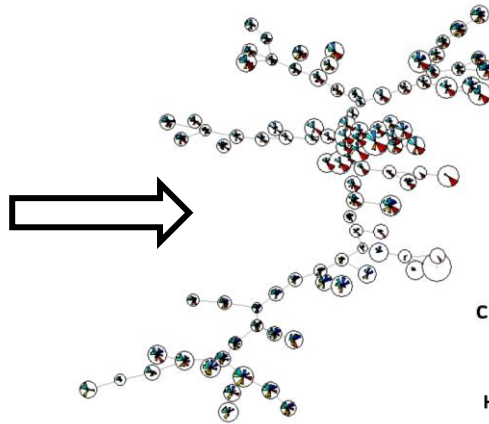
MIBIscope

analysis

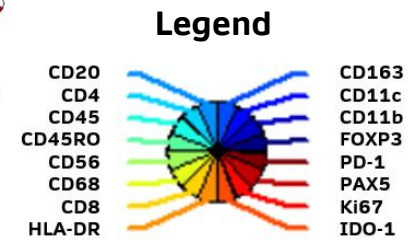
Unbiased and Unsupervised Clustering



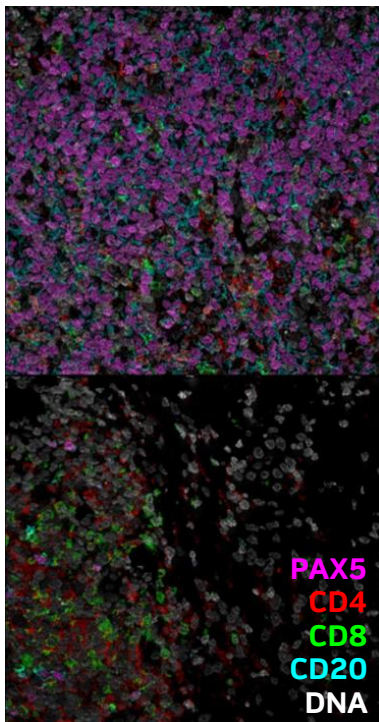
FlowSOM clusters



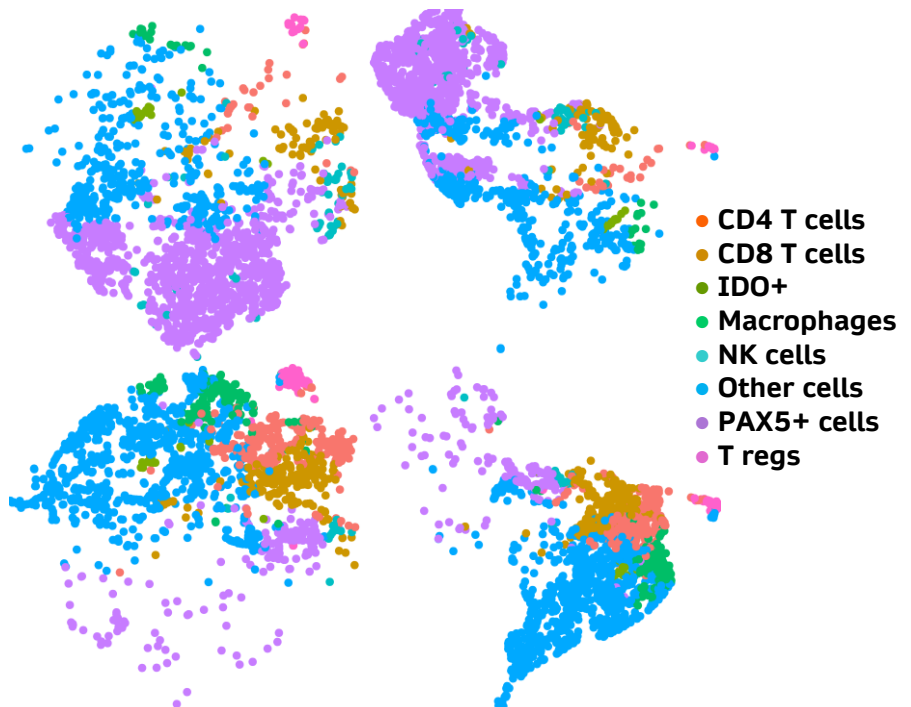
Mass-Spanning Tree



Dimensionality Reduction Plots



Protein Expression



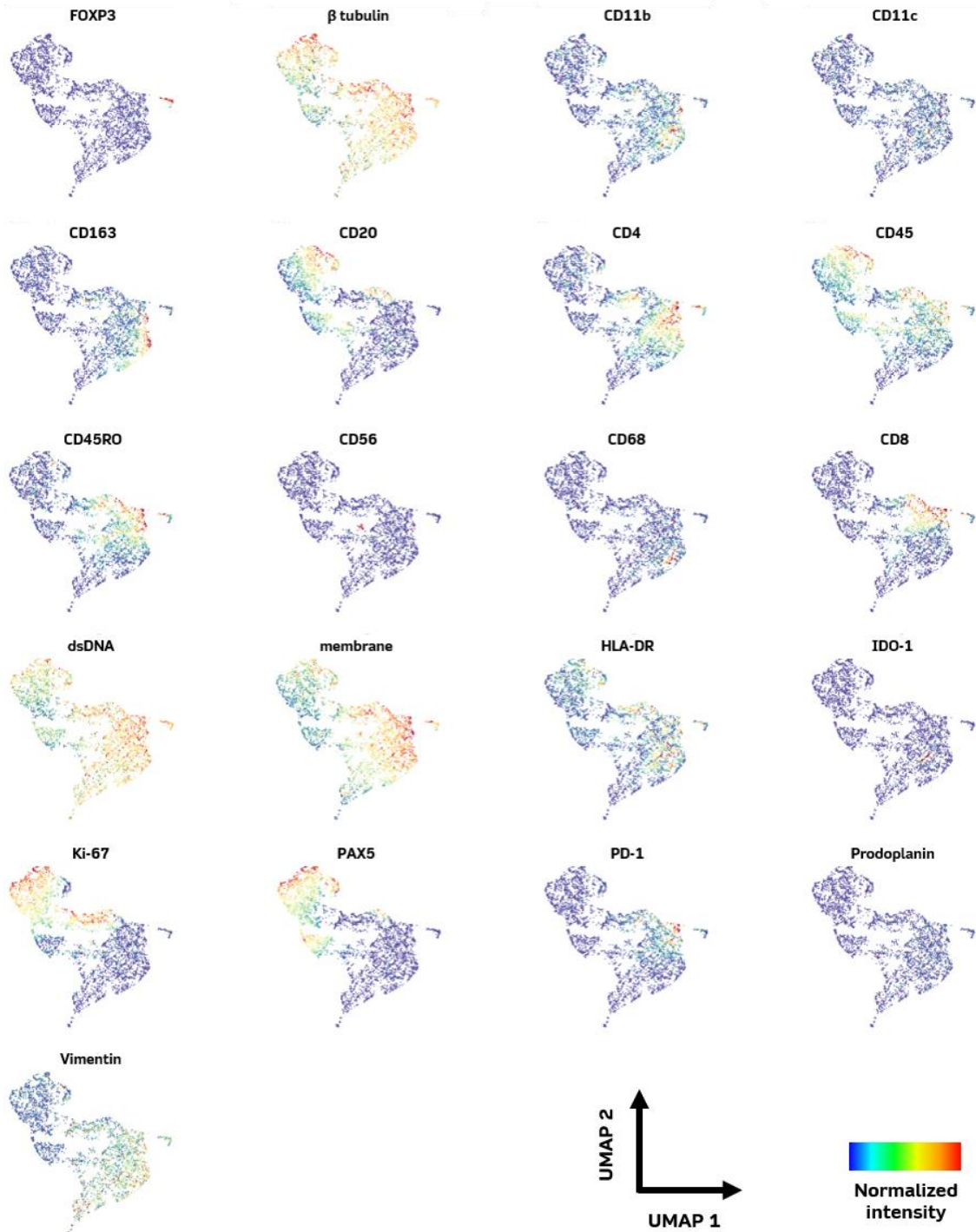
t-SNE

UMAP

MIBIscope

analysis

Marker Expression Profiling

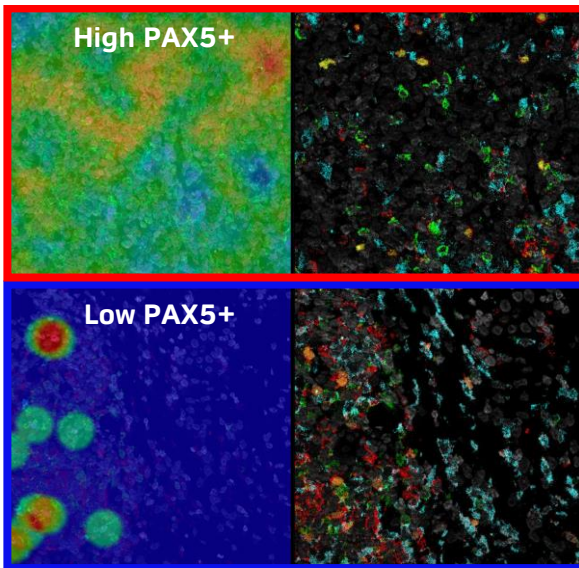


MIBIscope

analysis

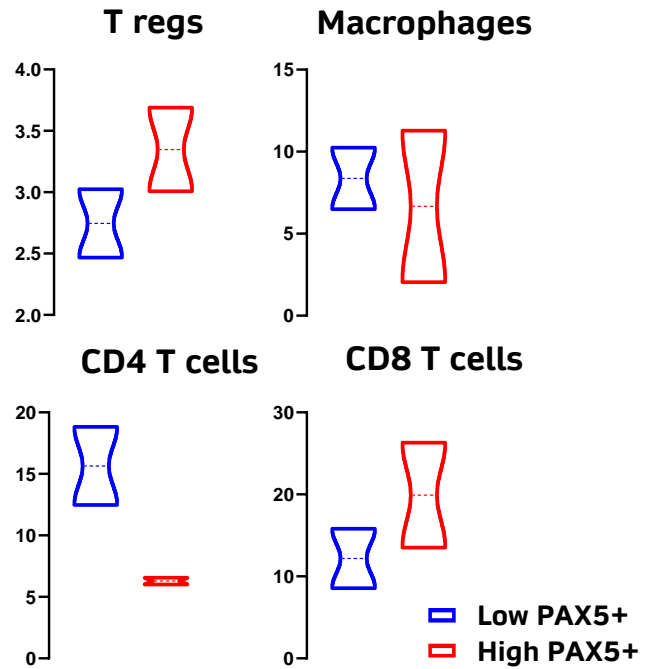
Differential Abundance of Immune Subsets

● CD4 ● CD8 ● CD68 ● FOXP3

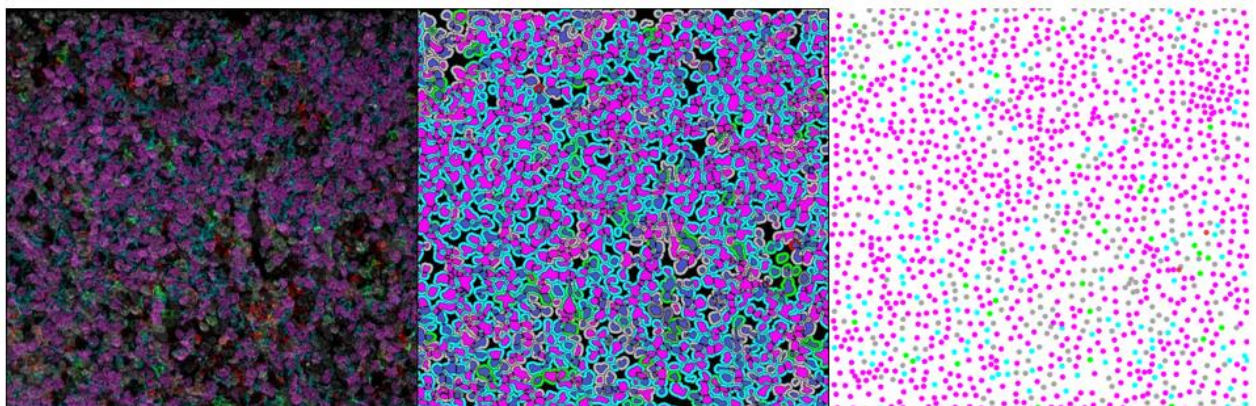


Tumour Density

Protein Expression



Percent Non-tumour cells



Protein Expression

Cell Classification

Spatial Analysis

MIBIscope

contact

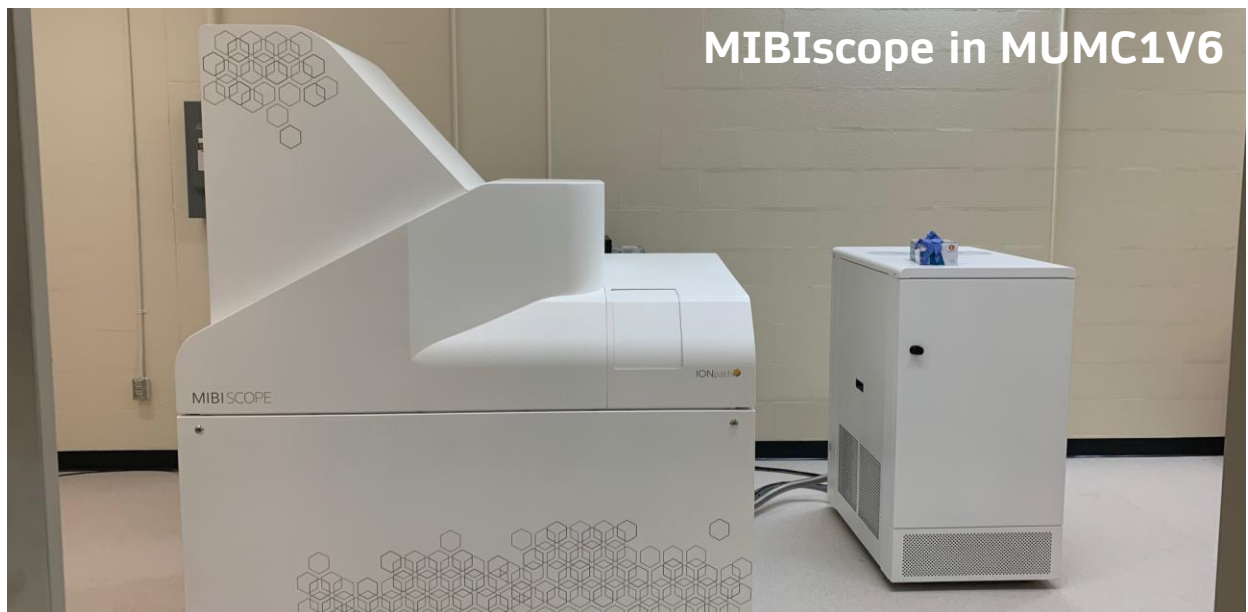
Interested in learning how MIBIscope will work for your samples?

- Uncover mechanisms of action
- Identify populations of interest
- Create immune profiles
- Quantify marker expression on a single-cell basis
- Discover novel phenotypes
- Profile tissue architecture with spatial analysis

Contact Us:

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Visualize

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