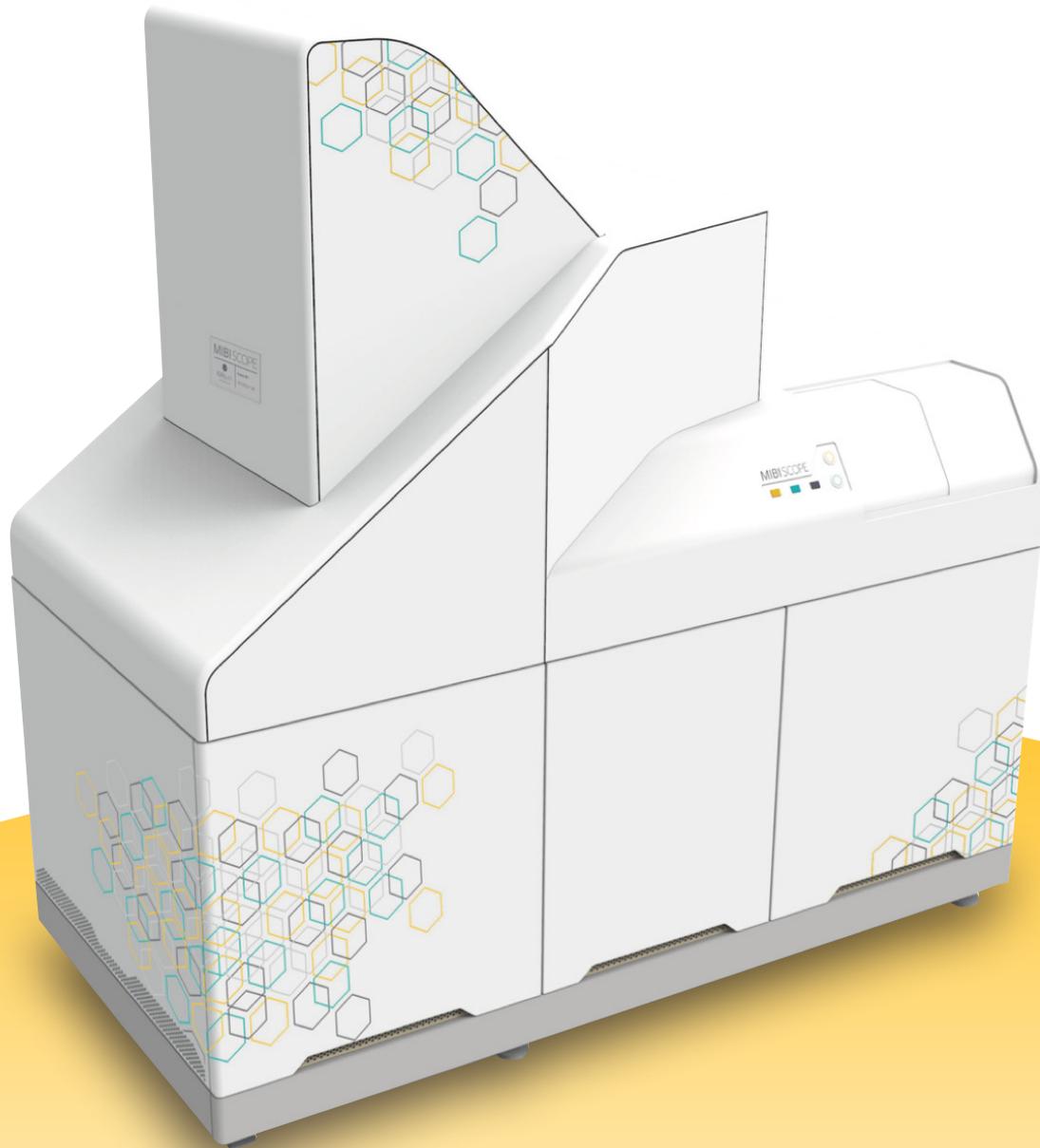


IONpath 



# MIBISCOPE™ I

Multiplexed Tissue Imaging that Transforms Discovery

# DIVE DEEPER INTO TISSUE MICROENVIRONMENTS

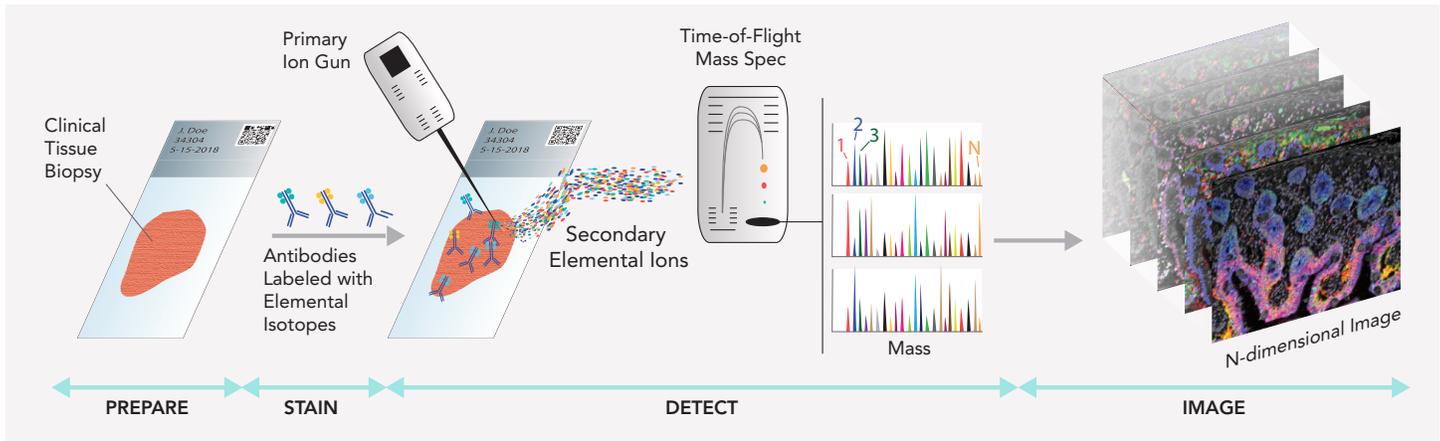
The MIBIscope I system lets pathologists and scientists gain new insights in the understanding of tissue microenvironment complexities with unmatched multiplexed image quality.

## HOW IT WORKS

The MIBIscope I system utilizes Secondary Ion Mass Spectrometry (SIMS) and enables simultaneous imaging of 40+ markers with the throughput needed for large cohort studies and the sensitivity to detect

- Visualize 40+ markers simultaneously
- Image at the sub-cellular resolution
- Detect low abundance proteins
- Rescan slides at multiple resolutions

low-abundance targets. Its simple, streamlined workflow adapts easily in both pathology and clinical imaging labs, and the system provides exquisite data quality with any tissue type.



**PREPARE**—FFPE tissue preparation follows conventional IHC protocols

**STAIN**—Tissue is stained with all mass-labeled antibodies at once

**DETECT**—Stationary tissue samples are raster scanned with a particle ion beam

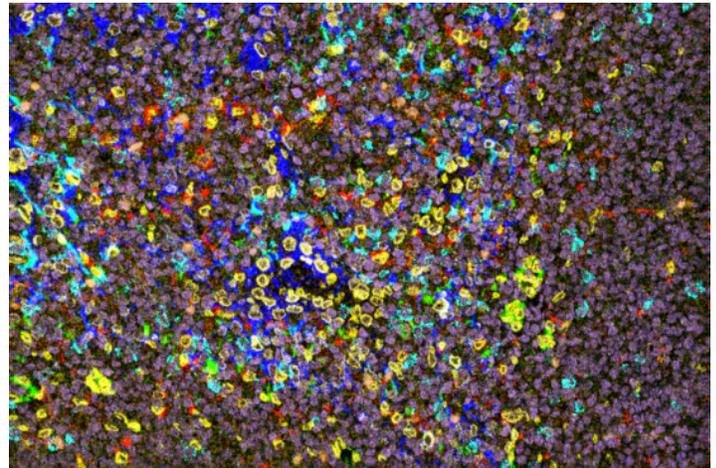
**IMAGE**—All markers are imaged at the same time and detected via TOF mass spectrometry

“In a recent MIBI triple negative cancer study using 36 markers, we determine different compartments in the tumor micro-environment which can be linked to survival. This unique information makes MIBI an essential tool in pathology labs to enable better patient stratification and therapeutic design.”

—Mike Angelo, MD, PhD  
Assistant Professor of Pathology, Stanford

## HIGH-PARAMETER TISSUE IMAGING

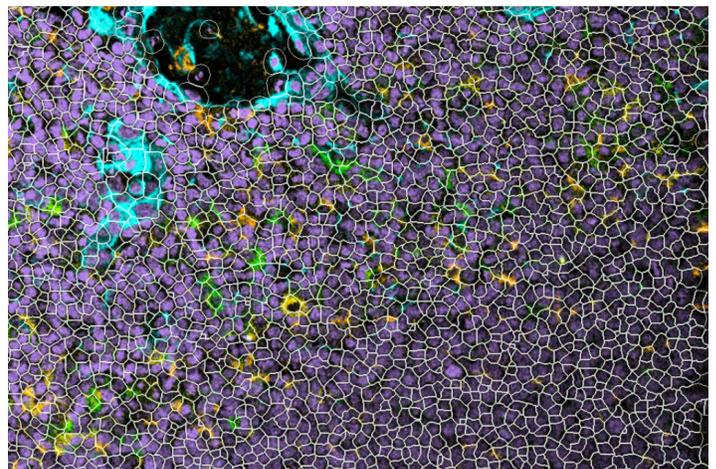
Stain, detect and quantify 40+ proteins at the same time in a single scan. The MIBIScope I system is ideal for visualizing complex interactions in tissue, including measuring response to an immunology intervention, analyzing co-expression of proteins in a brain biopsy and comprehensively profiling protein expression in a tumor to map cancer state.



Detection of *Lamin A-C* (yellow), *FOXP3* (orange), *CD68* (red), *CD31* (green), *CD8* (light blue), *keratin* (blue) and dsDNA (purple) in a tonsil sample.

## TRUE SUB-CELLULAR RESOLUTION

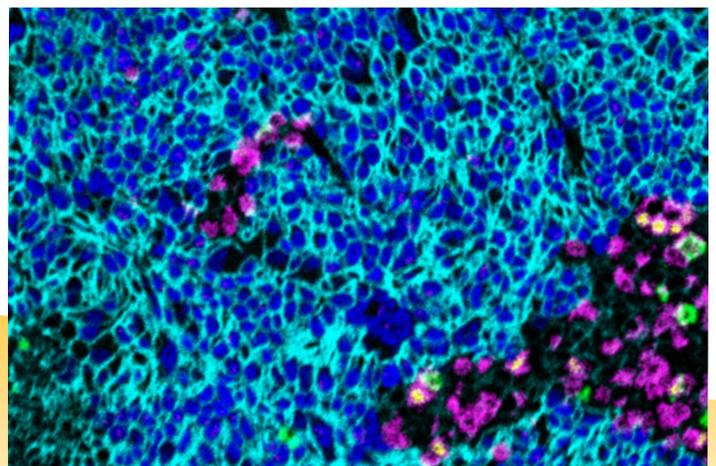
With resolution comparable to light microscopy systems, the MIBIScope I system lets you analyze and interpret cellular interactions. Cellular structures as small as 250 nm can be imaged, enabling downstream cell segmentation data analysis. Because the MIBIScope I doesn't fully ablate the sample, a survey scan can be done to select specific Regions of Interest followed by high-resolution imaging.



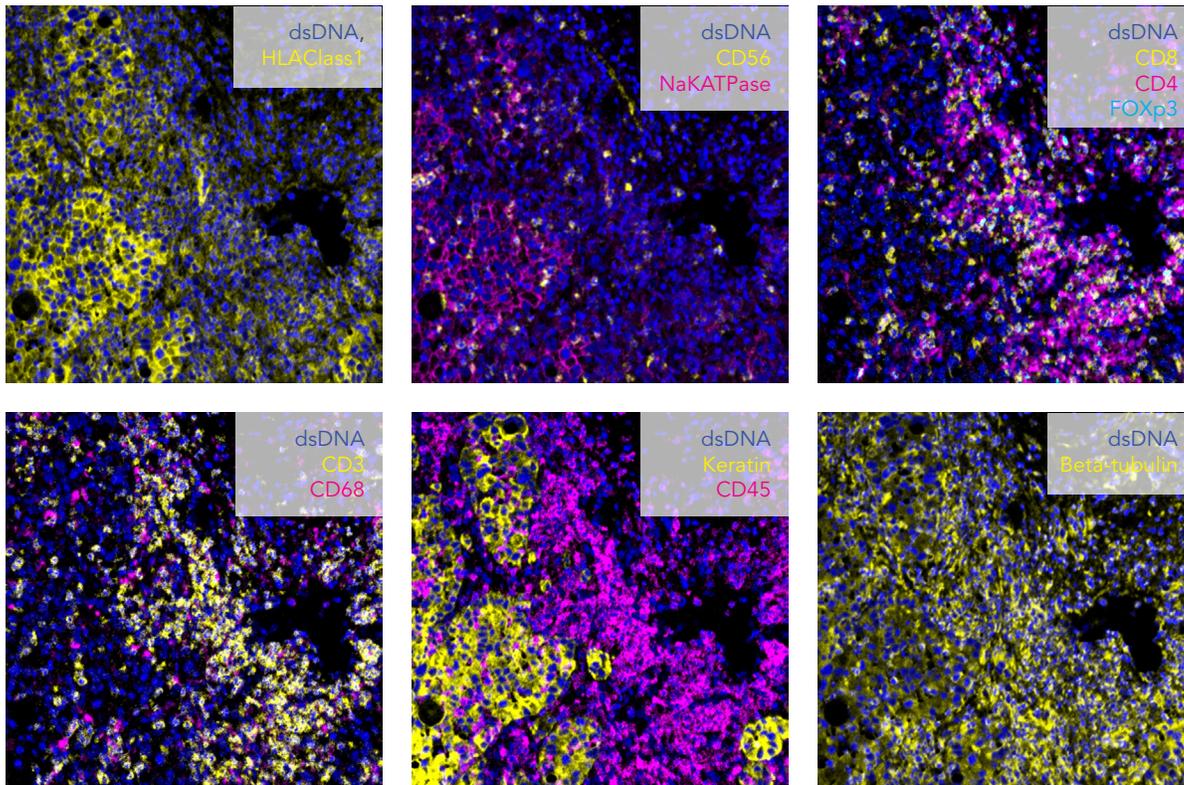
Cell segmentation in thymus sample with expression of *CD11c* (yellow), *CD56* (green), *CD68* (orange) and *keratin* (light blue). Double-stranded DNA is in purple.

## SEE AND QUANTIFY LOW ABUNDANCE PROTEINS

Low abundance proteins such as PD-1 and FOXP3 that can be missed using other techniques are easily detected with the MIBIScope I. With no probe background or autofluorescence to interfere with weak signals, the high sensitivity that results ensures all high, medium and low-abundance targets are detected.



Detection of *CD20* (green), *FOXP3* (yellow), *SOX10* (blue), *Na-K-ATPase* (cyan) and *CD3* (magenta) in a melanoma sample.



Example of multiplexed data collected for the same FOV in a lung adenocarcinoma sample.

### SIMPLE DATA REVIEW AND SHARING

MIBItracker Software's unique, cloud-based repository lets you easily review slide and image data, and it's accessible on any web browser. Different analysis modes let you customize the display for each image or image set including selecting channels for overlay,

setting channel relative intensity, pixel smoothing, and channel pseudo-color. Images can also be exported as raw grayscale multi-layer TIFF files for subsequent analysis in third-party packages such as Fiji, HALO® and VisioPharm®.

*MIBIscope 1 data of 36 proteins covering identity, function and immune regulation in 41 triple-negative breast cancer samples are available online for you to visualize with MIBItracker software.*

[MIBItracker.IONpath.com](https://www.ionpath.com/mibi/mibi-tracker)

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