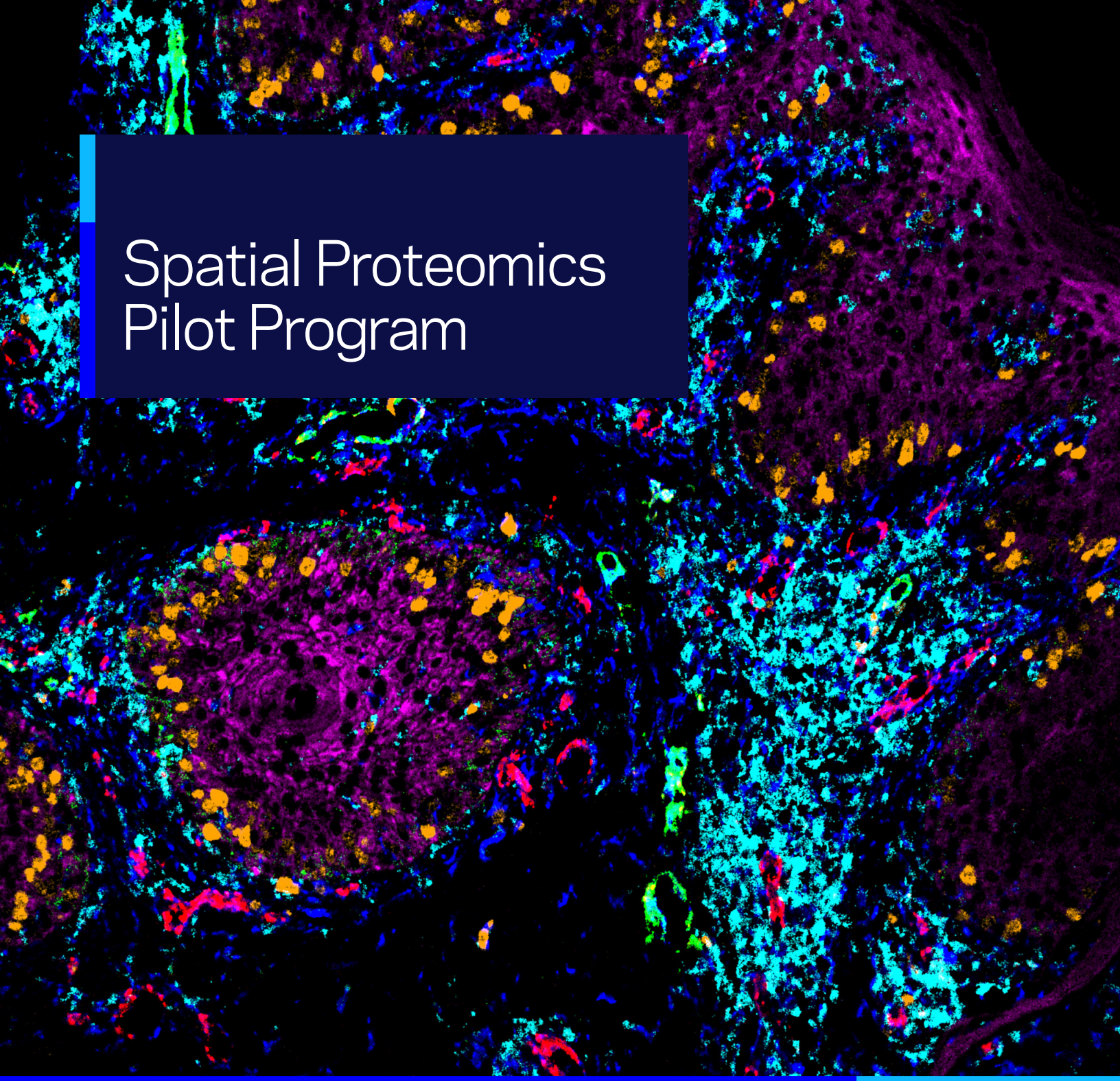


Spatial Proteomics Pilot Program

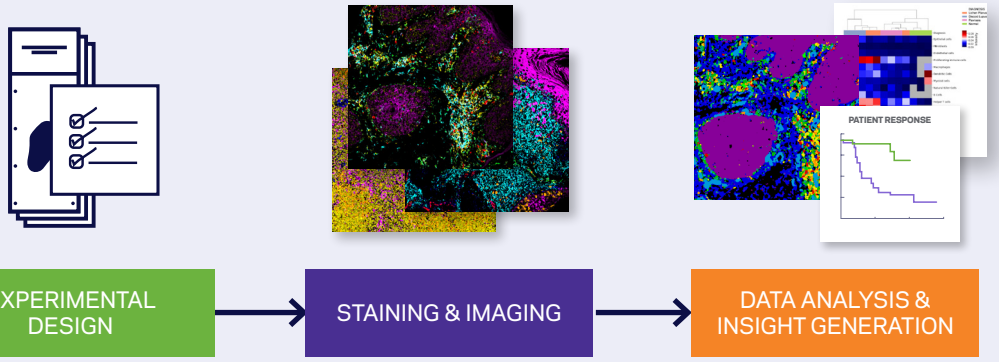
Leverage our expertise for actionable information for your tissue imaging and analysis needs

Spatial Protemics Pilot Program

Let Ionpath's expert team help you gain **actionable insights** from your tissue samples with MIBI-enabled tissue profiling services

Spatial Proteomic Services

TISSUE PROFILING SERVICES THAT DELIVER ACTIONABLE INSIGHT FOR BIOPHARMA



Could you be leaving critical information behind with your current tissue analysis method?

Try our **Spatial Proteomics Pilot Program** to discover the unparalleled insights you can obtain using Ionpath's MIBI™-enabled high-definition spatial proteomics.

Deep, quantitative analysis of the tissue microenvironment by our expert team

- Identification and enumeration of cell populations
- Quantification of protein expression at the single-cell level
- Analysis of spatial interactions with unmatched depth

PROGRAM FEATURES

- Immune profiling with our **30-marker Checkpoint Panel**
- Analysis of up to 10 slides
- Classification of 26 cell populations plus checkpoint expression
- Spatial analysis including nearest neighbor and tumor-immune boundary

DELIVERABLES

- Summary report
- Single-cell data and statistics
- MIBItiff files for offline analysis of multiplexed images
- MIBItracker™ enabled management and visualization of project data

Get started today!

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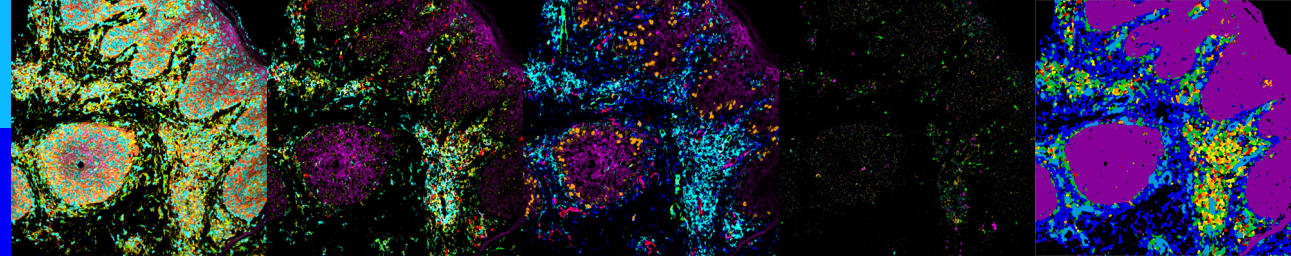
Antibody Panels



Checkpoint Panel

- Ideal for immune profiling
- Provides analysis of checkpoint expression
- Identifies up to 26 cell populations

The Ionpath Checkpoint Panel is ideal for immune profiling of tissue samples and provides classification of up to 26 cell populations as well as checkpoint expression analysis. The antibody panel is often the first choice for immune infiltrate analysis of the tumor microenvironment.

30-MARKER PANEL

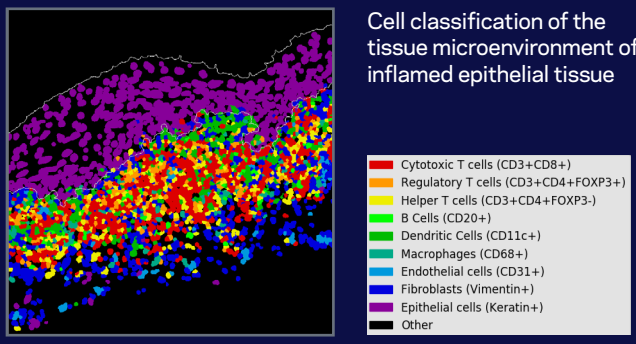
β-Tubulin	CD31	Granzyme B	PD-L1
CD3	CD45	HLA Class 1	Podoplanin
CD4	CD45RO	HLA DR	SMA
CD8	CD56	IDO1	TIM-3
CD11b	CD68	Ki-67	Vimentin
CD11c	CD163	LAG3	Tumor Marker*
CD14	dsDNA	Na/K ATPase α1	
CD20	FOXP3	PD-1	

* Keratin, SOX10, or PAX5

APPLICATION SPOTLIGHT

The **Ionpath Checkpoint Panel** was used in a study that analyzed the immune infiltrate and spatial signatures of tissue samples from patients with various types of skin inflammation.

The cell phenotype landscape (right), and further spatial analysis, identified which populations were nearest to epithelial cells and how the tissue organization varied between samples.



Cell classification of the tissue microenvironment of inflamed epithelial tissue

See reverse for cell classification with the Checkpoint Panel

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Cell Classification with the Checkpoint Panel

CELL TYPE	PHENOTYPE
Tumor cells	Keratin+, PAX5+ or SOX10+
Blood vessels	CD31+
Fibroblasts	Vimentin+
Immune cells	CD45+
T cells	CD3+
Helper T cells	CD3+ CD4+
Cytotoxic T cells	CD3+ CD8+
B cells	CD20+
NK cells	CD3- CD56+
Macrophages	CD68+
M1 macrophages	CD68+ CD163-
Dendritic cells	CD11c+ HLA DPDQDR+ CD14-
Lymphatics	Podoplanin+
Myofibroblasts	Vimentin+ SMA+
Smooth muscle	SMA+
Activated cytotoxic T cells	CD3+ CD8+ Granzyme B+
Memory helper T cells	CD3+ CD4+ CD45RO+
Memory cytotoxic T cells	CD3+ CD8+ CD45RO+
Naive helper T cells	CD3+ CD4+ CD45RO-
Naive cytotoxic T cells	CD3+ CD8+ CD45RO-
Regulatory T cells	CD3+ CD4+ FoxP3+
Activated NK cells	CD3- CD56+ Granzyme B+
M2-macrophages	CD68+ CD163+
Monocytes	CD14+
M2-monocytes	CD14+ CD68- CD163+
Myeloid cells	CD11b+
Proliferating immune cells	CD45+ Ki-67+
Proliferating tumor cells	Keratin+ Ki-67+, PAX5+ Ki-67+, or SOX10+ Ki-67+

PD-1, PD-L1, LAG3, TIM-3, IDO-1 expression is quantified for each classified cell type.