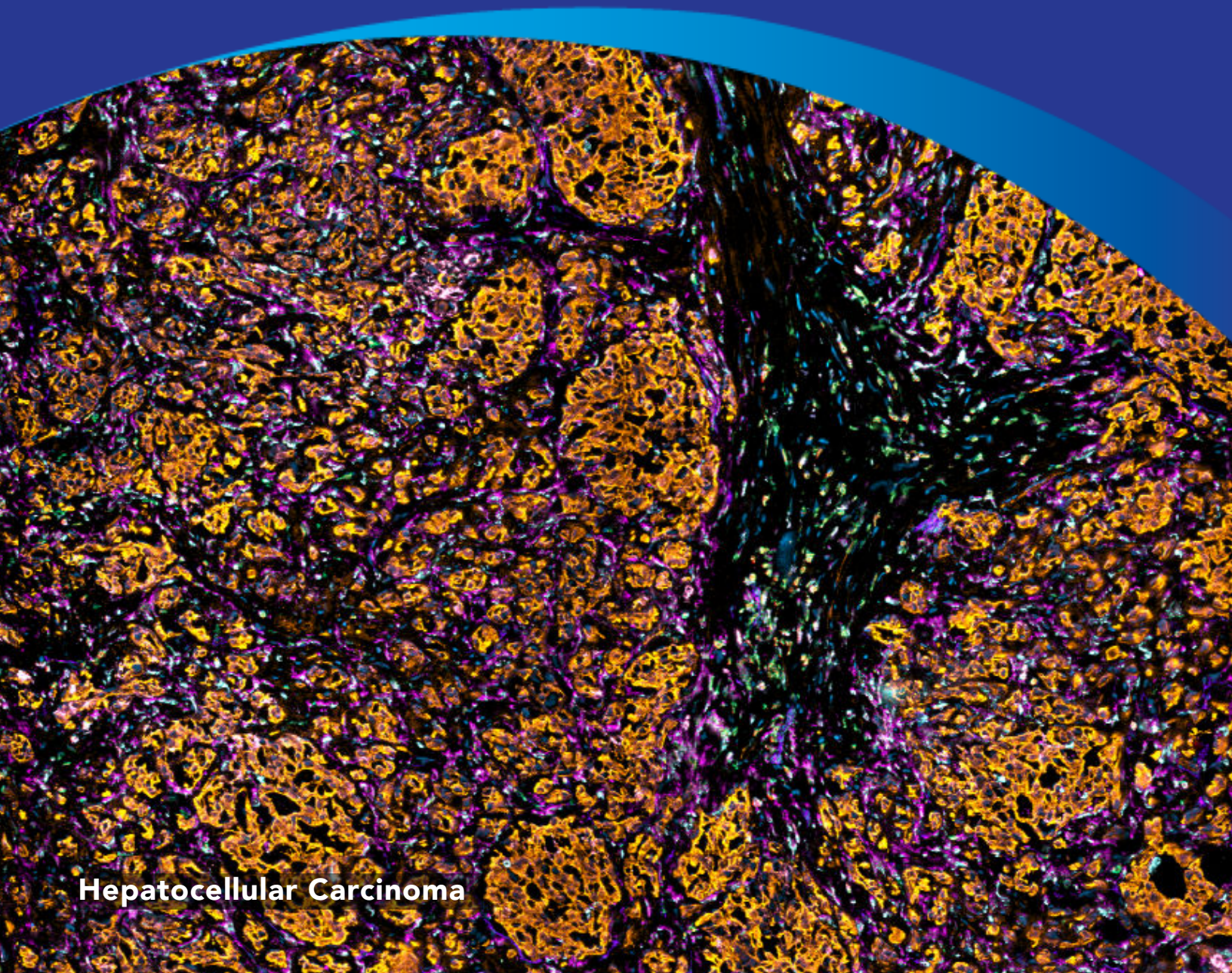
canopy BIOSCIENCES® A BRUKER COMPANY

ChipCytometry™ Assays for Research Applications

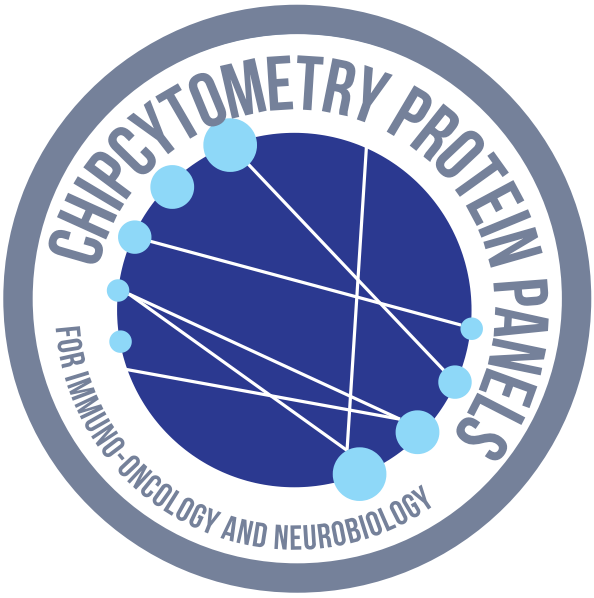
Pre-Validated Protein Panels



Hepatocellular Carcinoma

ChipCytometry™ Assays for Research Applications

Designed to provide comprehensive coverage of relevant tumor and immune cells for immunology and immuno-oncology research applications. Profile dozens of protein targets on the same sample with single-cell resolution using the ChipCytometry™ platform.



Product Highlights

- Designed for immunology, immuno-oncology, and neurobiology research applications
- Pre-validated protein panels for use in human and mouse tissue sections and PBMC samples
- All assays must pass a rigorous QC process that includes antibody optimization and assay validation
- Our Data Analysis Package enables deep spatial profiling of samples through quantification of protein expression levels and cell populations

ChipCytometry™ Protein Assays		
Product	**Species**	**Sample**
15-plex Immune Cell Profiling Panel	Human	PBMCs
18-plex COVID-19 Panel	Human	PBMCs
14-plex Spatial Immune Cell Phenotyping Panel	Human	FFPE Tissue
21-plex IO Spatial Phenotyping Panel	Human	Fresh Frozen Tissue
16-plex Mouse Spatial Immune Cell Phenotyping Panel	Mouse	Fresh Frozen Tissue

The ChipCytometry™ platform combines a fully integrated automated staining workflow and expert-guided spatial analyses for a comprehensive understanding of the interactions between cells in their native environment.

1 High-plex staining workflow

Our automated immunofluorescence staining workflow enables detection of biomarkers with fluorescently-labeled antibodies.

2 Visualize biology at single-cell resolution

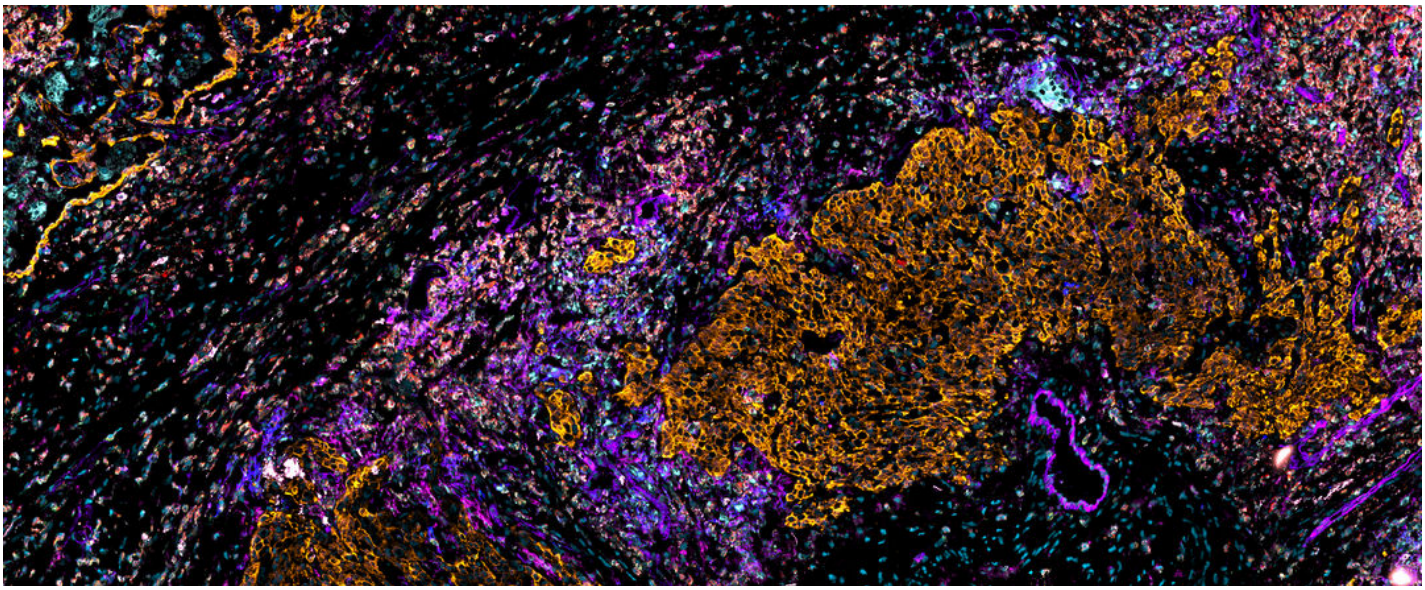
High-quality optics assist with ROI selection and enable identification and quantification of each cell in the sample.

3 Obtain the highest quality data with HDR imaging

HDR imaging allows for accurate quantification of expression levels of both high- and low-expressing proteins.

4 Analyze and interpret key biological pathways

Our data analysis and reporting service empowers researchers to answer some of the toughest biological questions.



High-plex phenotyping of tumor and immune cells in the context of the tumor enables quantification of protein expression levels and cell phenotypes to characterize cellular interactions within the tissue.

ChipCytometry™ Data Analysis Center

From images to quantification, the Data Analysis Center provides comprehensive spatial profiling of samples. Our expert scientists are trained to provide the highest quality results and analyze protein expression and cell populations to deeply profile the tissue microenvironment.

Data Analysis Package

Canopy Biosciences® data analysis and reporting service enables researchers to analyze and interpret protein expression results without the need for a computational background. Researchers benefit from project-specific data analysis that includes:

Consultation with an expert

Discuss your analysis goals with Canopy Biosciences® data scientists, who know ChipCytometry™ data best.

Full report on key findings

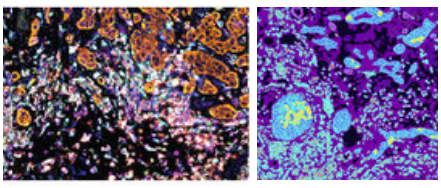
Receive a full report including key results, representative data, and publication-ready images and figures.

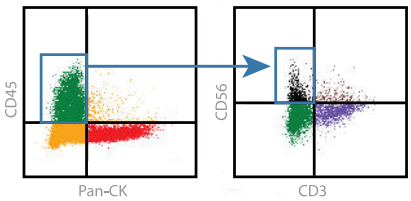
Interactive data review

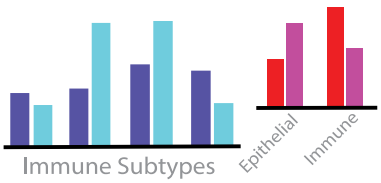
Review representative data and key results in a one-on-one interactive data review session.

Analysis Workflow

Our analysis workflow is designed to get the most out of your data. Canopy Biosciences® scientists have optimized the process for the most efficient results, without having to compromise on quality. Work with our team to determine how our analysis workflow can help answer your research questions.



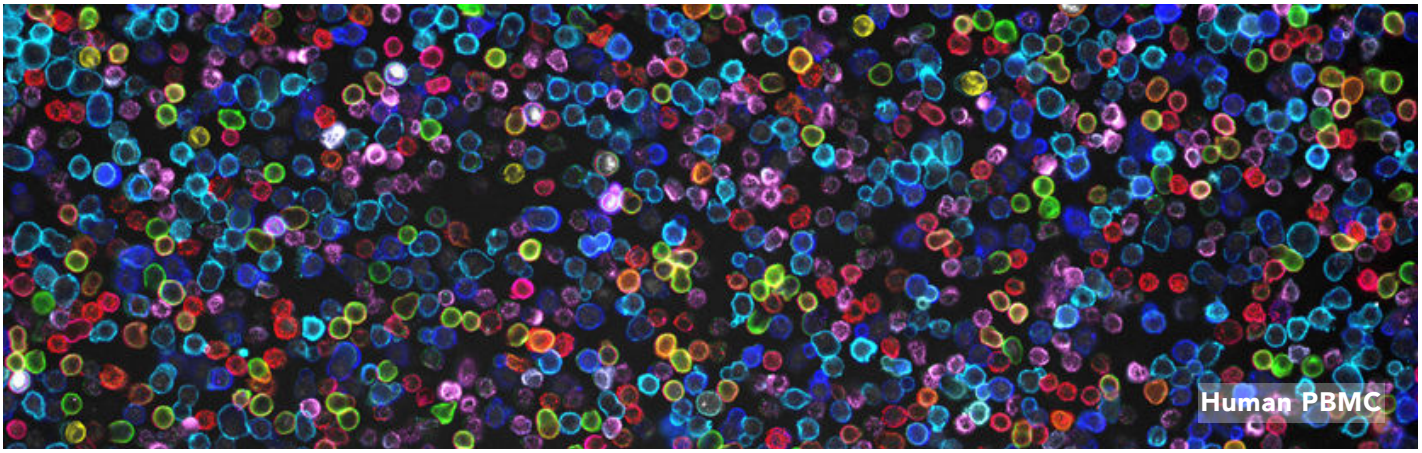




Custom AI algorithms optimized for sample type for accurate cell segmentation → *Cell phenotyping with hierarchical gating for immune and tumor cell identification* → *Quantification of protein expression levels and cell populations*

15-Plex Immune Cell Profiling Panel

Designed to provide comprehensive coverage of immune cells in human PBMCs for immunology and immuno-oncology research applications. Spatially profile samples with single-cell resolution using ChipCytometry™ and quantify cell populations with our Data Analysis Center.



Panel Highlights

- Includes 15 key immunology targets and immune cell typing markers
- Data Analysis Package enables spatial profiling of at least 23 cell phenotypes
- Targets for identification of T cells, B cells, NK cells, monocytes, and dendritic cells, and subtypes
- Additional cell types profiled upon request during consultation with data scientists

15-Plex Immune Cell Profiling Panel			
CD3	CD14	CD27	CD123
CD4	CD16	CD45	HLA-DR
CD8	CD19	CD45RA	FoxP3
CD11c	CD25	CD56	

Spatially Profile Cell Phenotypes

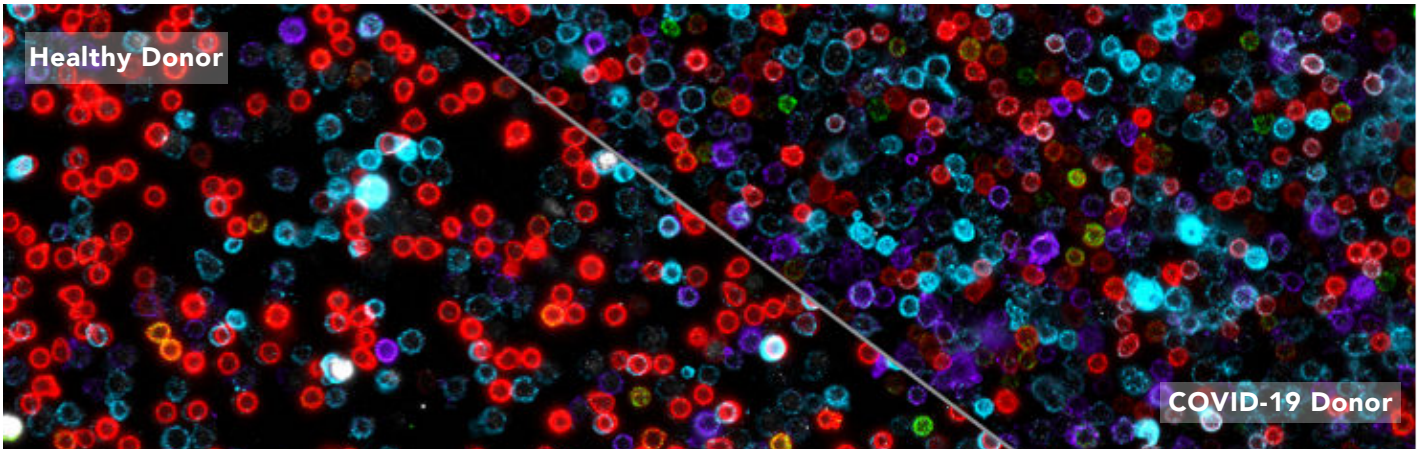
23 Including T cells, NK cells, NKT cells, cytotoxic T cells, helper T cells, regulatory T cells, naïve, effector, and central memory CD8 and CD4 T cells, B cells, memory B cells, naïve B cells, classical monocytes, non-classical monocytes, dendritic cells, myeloid dendritic cells, plasmacytoid dendritic cells, and others upon request

Assay Performance

Assay validation was performed by evaluating staining patterns in positive controls. All markers passed a rigorous quality control process which included antibody titration, demonstration of correct staining patterns, and quantification of 23 cell phenotypes.

18-Plex COVID-19 Panel

Designed to provide deep profiling of immune cells in human PBMCs for COVID-19 research, and with broad application in infectious disease, immunology, and immuno-oncology research. Spatially profile samples with single-cell resolution using ChipCytometry™ and quantify cell populations with our Data Analysis Center.



Panel Highlights

- Includes 18 key immunology targets and immune cell typing markers
- Data Analysis Package enable quantification of at least 32 cell phenotypes
- Targets for identification of immune cells and subtypes and cell states including cell exhaustion, activation, and proliferation
- Additional cell types profiled upon request during consultation with data scientists

18-Plex COVID-19 Panel			
CD3	CD16	CD45	HLA-DR
CD4	CD19	CD45RA	Ki-67
CD8	CD25	CD56	PD-1
CD11c	CD27	CD123	
CD14	CD38	FoxP3	

Spatially Profile Cell Phenotypes

32

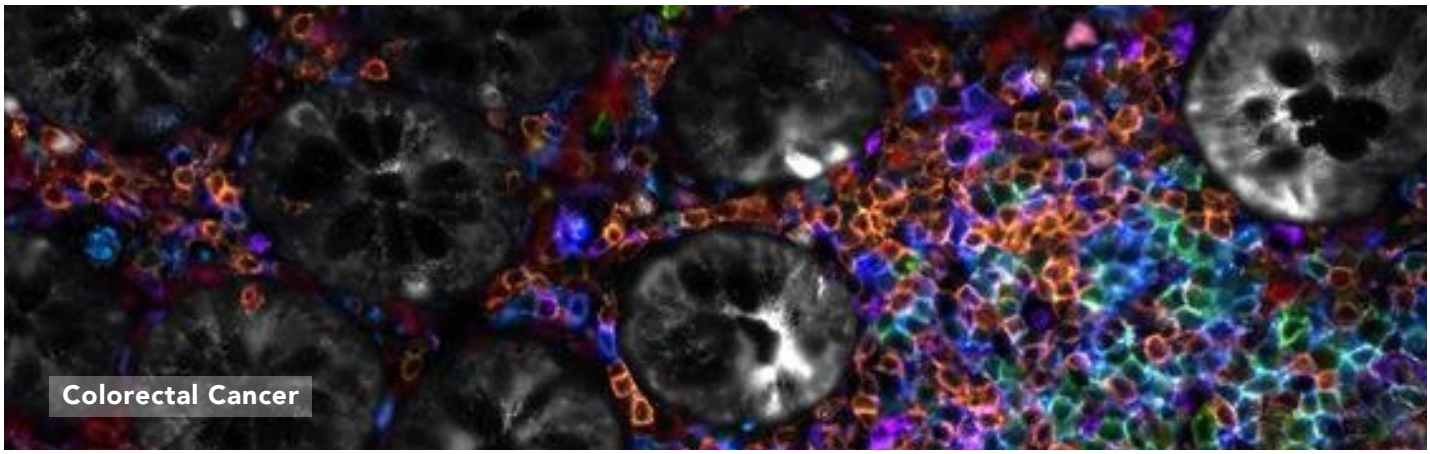
Including T cells, NK cells, NKT cells, cytotoxic T cells, helper T cells, regulatory T cells, proliferating T cells, activated T cells, exhausted T cells, B cells, memory B cells, naive B cells, classical monocytes, non-classical monocytes, dendritic cells, myeloid dendritic cells, plasmacytoid dendritic cells, and others upon request

Assay Performance

Assay validation was performed by evaluating staining patterns in positive controls. All markers passed a rigorous quality control process which included antibody titration, demonstration of correct staining patterns, and quantification of 32 cell phenotypes.

14-Plex Spatial Immune Cell Phenotyping Panel

Designed to provide comprehensive coverage of immune and epithelial cells in human FFPE tissue for immunology and immuno-oncology research applications. Spatially profile samples with single-cell resolution using ChipCytometry™ and quantify cell populations with our Data Analysis Center.



Panel Highlights

- Includes 14 key immunology targets and immune cell typing markers
- Data Package enables spatial profiling of at least 13 cell phenotypes
- Targets for identification of epithelial cells, T cells, B cells, monocytes, and dendritic cells, and subtypes
- Additional cell types profiled upon request during consultation with data scientists

14-Plex Spatial Immune Cell Phenotyping Panel			
DNA	CD11c	CD45	HLA-DR
CD3	CD14	CD45RA	Pan-CK
CD4	CD20	CD123	
CD8	CD25	FoxP3	

Spatially Profile Cell Phenotypes

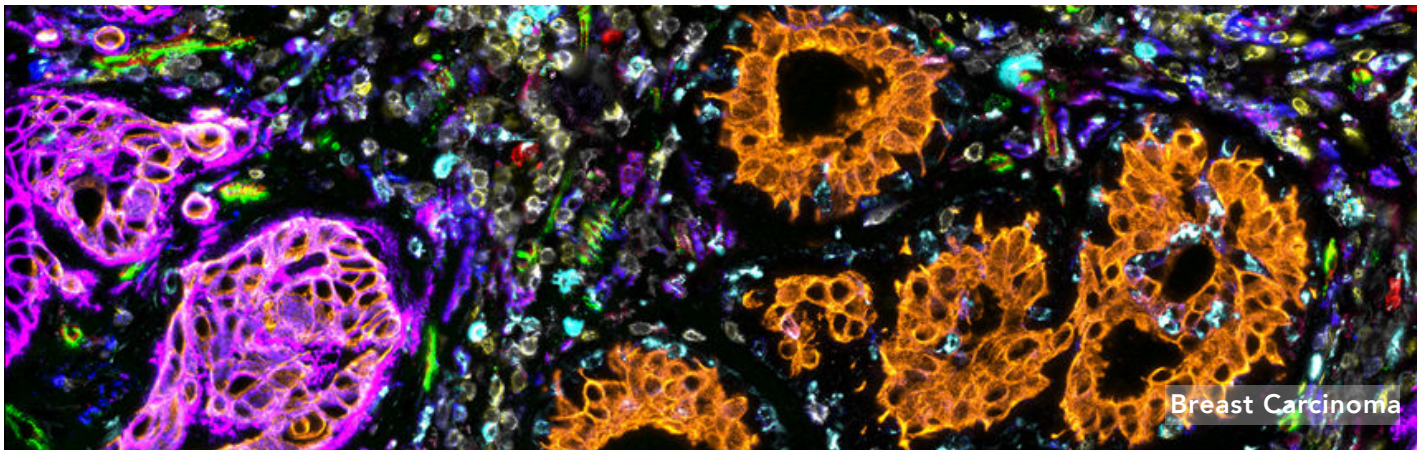
13 Including epithelial cells, T cells, cytotoxic T cells, helper T cells, regulatory T cells, effector memory CD8 T Cells, effector memory CD4 T Cells, B cells, monocytes, myeloid dendritic cells, plasmacytoid dendritic cells, and others upon request

Assay Performance

Assay validation was performed by evaluating staining patterns in positive controls. All markers passed a rigorous quality control process which included antibody titration, demonstration of correct staining patterns, and quantification of 13 cell phenotypes.

21-Plex IO Spatial Phenotyping Panel

Designed to provide deep profiling of immune and tumor cells in human fresh frozen tissue for immunology and immuno-oncology research applications. Spatially profile samples with single-cell resolution using ChipCytometry and quantify cell populations with our Data Analysis Center.



Panel Highlights

- Includes 21 key immunology targets and immune and epithelial cell typing markers
- Data Analysis Package enables spatial profiling of at least 27 cell phenotypes
- Targets for identification of epithelial cells, T cells, B cells, macrophages, NK cells, monocytes, and dendritic cells, and subtypes
- Additional cell types profiled upon request during consultation with data scientists

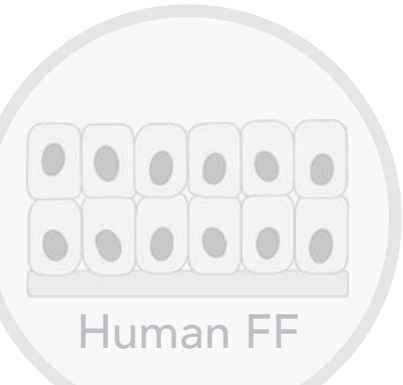
21-Plex IO Spatial Phenotyping Panel			
DNA	CD20	CD56	HLA
CD3	CD31	CD68	Pan-CK
CD4	CD38	CD123	PD-1
CD8	CD45	EpCAM	
CD11c	CD45RA	FoxP3	
CD14	CD45RO	HER-2	

Spatially Profile Cell Phenotypes

27 Including T cells, cytotoxic T cells, helper T cells, regulatory T cells, NK cells, NKT cells, macrophages, basophils, myeloid dendritic cells, plasmacytoid dendritic cells, endothelial cells, epithelial cells, tumor cells, and others upon request

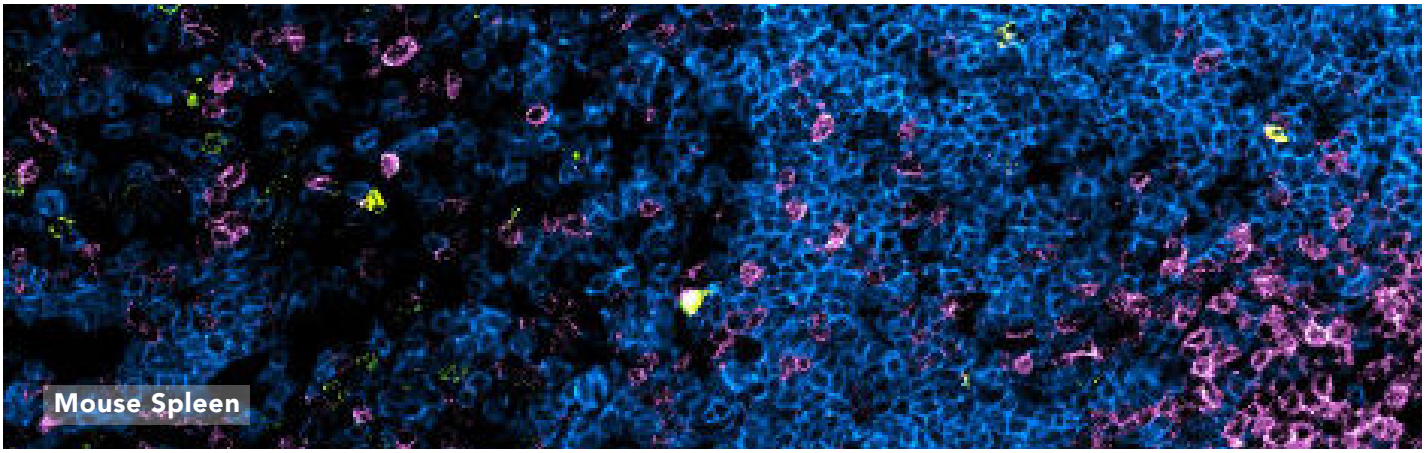
Assay Performance

Assay validation was performed by evaluating staining patterns in positive controls. All markers passed a rigorous quality control process which included antibody titration, demonstration of correct staining patterns, and quantification of 13 cell phenotypes.



16-Plex Mouse Spatial Immune Cell Phenotyping Panel

Designed to provide deep profiling of immune and epithelial cells in mouse fresh frozen tissue for immunology and immuno-oncology research applications. Spatially profile samples with single-cell resolution using ChipCytometry and quantify cell populations with our Data Analysis Center.



Panel Highlights

- Includes 16 key immunology targets and immune and epithelial cell typing markers
- Data Analysis Package enables spatial profiling of at least 14 cell phenotypes
- Targets for identification of T cells, B cells, macrophages, NK cells, monocytes, and dendritic cells, and subtypes
- Additional cell types profiled upon request during consultation with data scientists

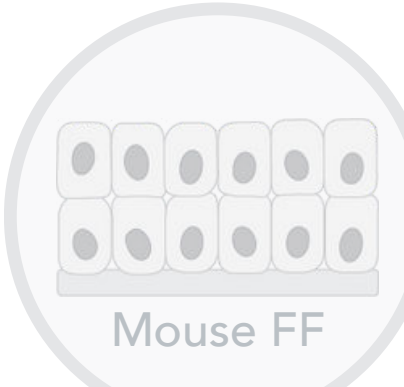
16-Plex Mouse Spatial Immune Cell Phenotyping Panel			
DNA	CD11c	B220	Pan-CK
CD3	CD45	F4/80	
CD4	CD69	FoxP3	
CD8	CD206	Gr-1	
CD11b	CD335	MHC II	

Spatially Profile Cell Phenotypes

14 Including T cells, CD4+ and CD8+ T cells, regulatory T cells, activated T cells, NK cells, NKT cells, activated NK cells, B cells, dendritic cells, monocytes, macrophages, M2 macrophages, neutrophils, and others upon request

Assay Performance

Assay validation was performed by evaluating staining patterns in positive controls. All markers passed a rigorous quality control process which included antibody titration, demonstration of correct staining patterns, and quantification of 14 cell phenotypes.



Ordering Information

ChipCytometry™ Protein Assays	
Product	**Catalog Number**
ChipCytometry 15-plex Human PBMC Immune Cell Profiling Panel	PRSM-PVP-1001
ChipCytometry 18-plex Human PBMC COVID-19 Panel	PRSM-PVP-1002
ChipCytometry 14-plex Human FFPE Spatial Immune Cell Profiling Panel	PRSM-PVP-3002
ChipCytometry 21-plex Human FF IO Spatial Phenotyping Panel	PRSM-PVP-2001
ChipCytometry 16-plex Mouse FF Spatial Immune Cell Phenotyping Panel	PRSM-PVP-2002

ChipCytometry™ Project Add-Ons	
Product	**Catalog Number**
Project Data Analysis Report	PRSM-PVP-0001
Extended Sample Archiving	PRSM-PVP-0003
Field of View Expansion	PRSM-PVP-0005

Terms & Conditions

Assays are rigorously validated for precise and consistent performance and further optimized for specific projects during pilot phase testing. Quality of sample preparation can affect assay performance. Consultation prior to sample preparation is recommended.

Contact your Canopy Biosciences Business Development Representative for more information or to receive a quote.

To learn more, visit canopybiosciences.com/chipcytometry

Canopy Biosciences
4340 Duncan Avenue
Suite 220
Saint Louis, Missouri 63110

MAY 2023 V3

canopy BIOSCIENCES A BRUKER COMPANY