
BRUKER SPATIAL BIOLOGY

# Canopy Multiomic Services

Your Access to Innovation

# Cutting-Edge CRO Services for Spatial Biology, Gene Expression, and Single-Cell Omics

Canopy Multiomic Services is a comprehensive suite of spatial biology and single-cell analysis CRO services available through Bruker Spatial Biology. By integrating a curated collection of technologies, we provide a unique toolset for biopharmaceutical research, custom assay development, clinical sample testing, and quality data acquisition and reporting. Leveraging our expertise with our flagship technologies CosMx© Spatial Molecular Imager, GeoMx© Digital Spatial Profiler, CellScape™ Precise Spatial Proteomics Platform, and the nCounter© Analysis Platform, we possess unparalleled experience with state-of-the-art instrumentation.

With a  our expert scientists will help you overcome complex problems and transform scientific discovery into new treatments, disease indications, and biomarker development with efficient assay optimization and problem-solving.

## No instrument? No problem.

We have multiple laboratories across the globe with key areas of expertise:

- Spatial transcriptomics
- Spatial proteomics
- Gene expression
- Histology and laboratory pathology
- FISH, RNA-ISH, and IHC
- Single-cell transcriptomics
- Bulk transcriptomics

Partner with us to accelerate your research, knowing we have the flexibility and expertise to perform your experiment from start to finish.

## Conclude with Confidence

### Orthogonal Validation

Pair our technologies together to generate powerful insights. Use our high-throughput transcriptomics and spatial transcriptomics platforms to build hypotheses and then leverage our proteomics instruments to bring your concept to conclusion.

As the creators of the CosMx, CellScape, GeoMx, and nCounter platforms, we have extensive expertise in designing and executing high-throughput spatial and gene expression experiments. Utilize our experience to efficiently carry out your next biomarker discovery project or clinical trial.

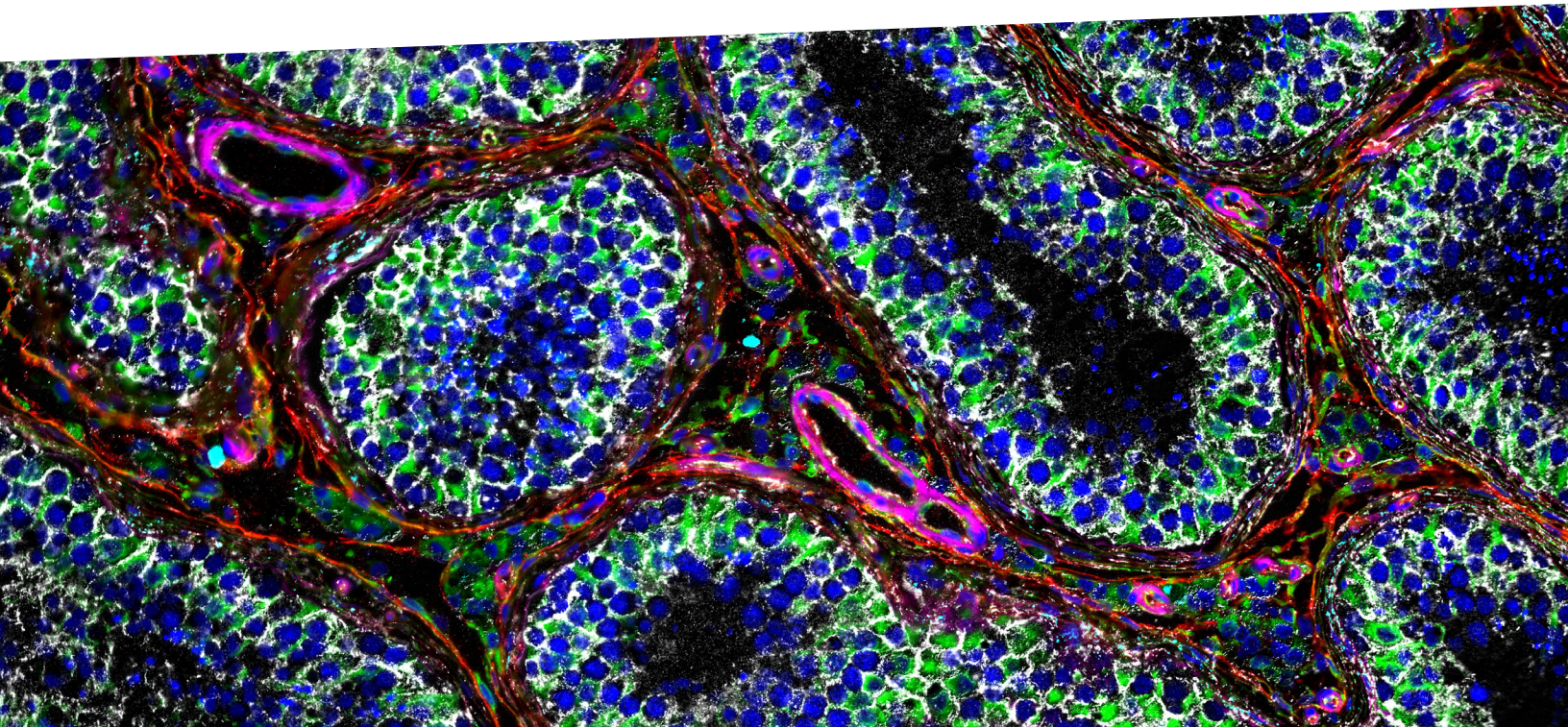
You design the experiments, let us do the work.

# End-to-End Solutions

## Find the right service to suit the needs of your experiment.

Canopy Multiomic Services offers a broad portfolio of service offerings focused on spatial biology and single-cell omics. Our full suite of complementary technologies is used to detect and analyze proteins and nucleic acids, leading to a more wholistic understanding of cellular diversity and interaction.

| Service | Analyte | | Resolution | |
|---|---|---|---|---|
| | RNA | Protein | Spatial | Single-cell |
| CellScape™ Precise Spatial Proteomics | | ✓ | ✓ | ✓ |
| CosMx® Spatial Molecular Imager | ✓ | ✓ | ✓ | ✓ |
| GeoMx® Digital Spatial Profiler | ✓ | ✓ | ✓ | |
| nCounter® Analysis Platform | ✓ | | | |
| **NEW**: MERSCOPE® Spatial Imaging | ✓ | | ✓ | ✓ |
| IHC | | ✓ | ✓ | |
| FISH/ISH | ✓ | | ✓ | ✓ |
| Single-cell RNA-Seq | ✓ | | | ✓ |
| Bulk RNA-Seq | ✓ | | | |

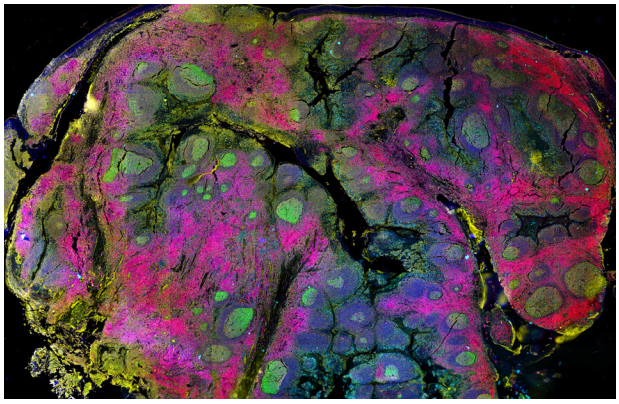


# CellScape™ Precise Spatial Proteomics

## From Bruker Spatial Biology

The CellScape Precise Spatial Proteomics platform facilitates high resolution, high dynamic range imaging and quantitative phenotyping for any tissue or cell suspension. This technology enables profiling of protein expression data within the context of tissue architecture, tissue microenvironments, and cell-cell interactions. With pre-validated antibody panels and assay kits available to capture a wide range of biomarkers as well as expertise with custom assay development, we have the capabilities for in-depth analysis of your tissue or cell samples.

We have helped researchers across academia and biopharma incorporate spatial biology from the early phases of discovery to supporting their clinical trials, and we can help your lab bring spatial context to your biomarker research.

Whole tissue imaging of human FFPE tonsil using CellScape. The tissue sample is stained with 15 markers using the VistaPlex™ Spatial Immune Profiling Kit to profile the tissue microenvironment and immune infiltration. Biomarkers are detected and quantified at single-cell resolution while retaining spatial information.

# nCounter® Analysis Platform

## From Bruker Spatial Biology

The nCounter platform is a powerful tool for differential gene expression analysis. With a full catalog of panels for immunology, oncology, neuroscience and other applications, researchers can quantify up to 800 genes per sample with this simple hybridization and digital counting technology. Ideal for FFPE due to the probe design and amplification-free workflow, it is highly reproducible and has been extensively used for pre-clinical and clinical research.

Providing nCounter services for nearly a decade, our extensive expertise in this technology has allowed us to optimize starting material quantity and quality so we can get quality results even from limited or degraded samples. We boast a 2 week turnaround time and offer access to ROSALIND for rapid data analysis.



ROSALIND is our preferred platform for differential gene expression analysis for nCounter and RNA-seq data. In each comparison, clients can access gene lists, gene details and pathway analysis. With dynamic visualization, clients can see gene-specific data across multiple outputs.

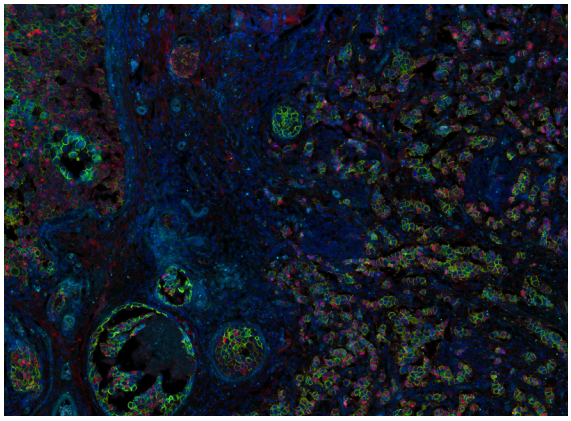
# GeoMx® Digital Spatial Profiler (DSP)

## From Bruker Spatial Biology

With a portfolio of transcriptomic and protein panels, GeoMx DSP enables regional spatial analysis paired with molecular profiling for a better understanding of tumors and tumor microenvironments.

Morphologically guided ROI selection with markers to highlight the tumor and immune cells is followed by molecular profiling of RNA transcripts. We assist in ROI selection and provide training on the analysis suite for GeoMx so our clients can overlay spatial analysis with gene expression data for a holistic understanding of tumor biology.

Morphology markers broadly identify tumor and immune compartments, and we have developed our own catalog of application-specific markers for use in the GeoMx assay as well as the validation workflow for additional customer-specific markers.



Triple positive breast cancer sample scanned on the GeoMx with markers for nucleic acid (blue), HER2 (green), progesterone receptor (red), and estrogen receptor (cyan).

# CosMx® Spatial Molecular Imager (SMI)

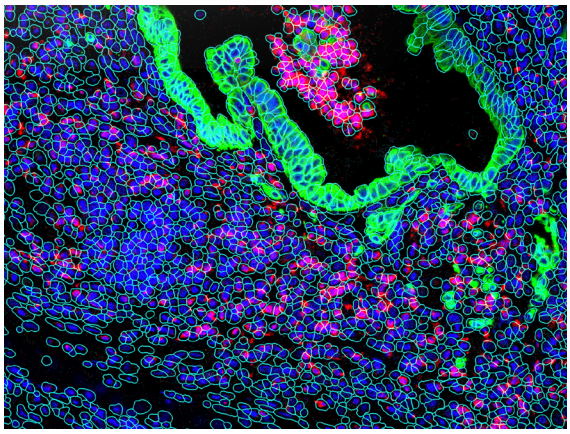
## From Bruker Spatial Biology

The CosMx SMI enables spatial transcriptomics with single-cell resolution. Partner with us to leverage this technology and explore cell typing, pathway analysis, cell functions, and
cell-cell interactions.

Use pre-designed high plex panels for quick results:

- Human 6K Discovery RNA Panel
- 1K Universal Cell Characterization RNA Panel
- 64-plex Human Immuno-oncology Protein Panel
- 1K Mouse Neuroscience RNA Panel
- 68-plex Mouse Neuroscience Protein Panel

Send your FF or FFPE tissue samples to us and we will provide your lab with an end-to-end solution for single-cell spatial profiling projects.



Cell segmentation using CosMx SMI.

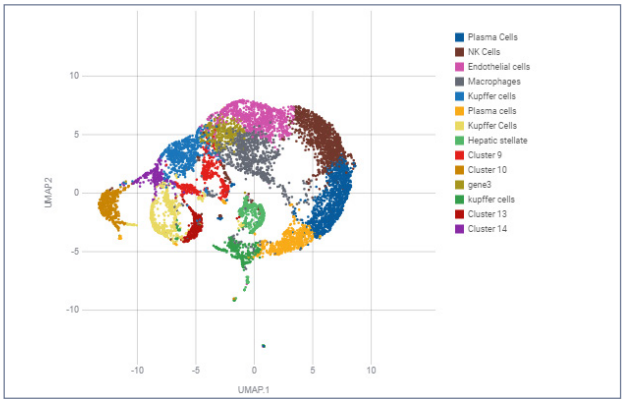


## Single-Cell RNA-Sequencing

### Using 10x Genomics Chromium® X Series

The 10x Genomics Chromium X platform allows for single-cell transcriptome sequencing for up to tens of thousands of cells. Single-cell RNA-seq provides comprehensive and unbiased gene expression profiling of heterogenous cells, including tumor and immune cells. This level of throughput for transcriptional analysis enables researchers to understand the characteristics of individual cells within a heterogeneous population.

Our end-to-end single-cell RNA-seq service provides a cost-effective and time saving route to acquire data quickly, leveraging both our expertise and our instrumentation. Through our partnership with Rosalind Bio, data analysis with the ROSALIND cloud-based platform enables gene set enrichment, gene clustering, pathway interpretation, and creation of publication-quality figures.



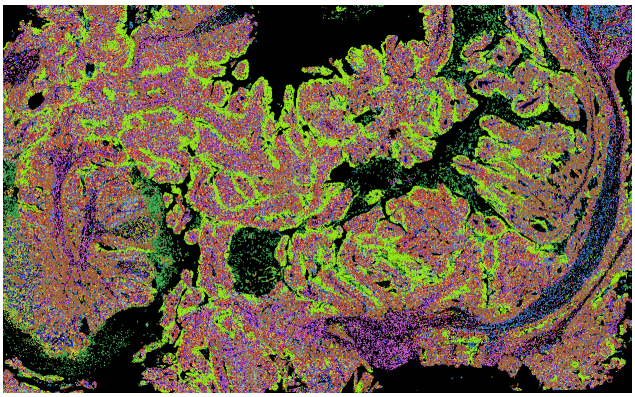

ROSALIND transforms the analysis of single-cell RNA-seq with an end-to-end web-based experience for analysis, interpretation and collaboration. Interactive analyses of single cell clusters reveal biology of cells. UMAP plot provided by Rosalind Bio.

## NOW AVAILABLE:

### MERSCOPE® Spatial Imager
### From Vizgen

Leveraging Multiplexed Error-Robust Fluorescence in situ Hybridization (MERFISH), MERSCOPE accurately quantifies and identifies the spatial distribution of target RNA transcripts in single cells without the need for downstream sequencing. We assist in mapping individual cells in your samples to maximize the impact of your data. MERSCOPE enables localization of RNA transcripts at the subcellular level, with the capability to detect even low-expressing genes. Capable of interrogating FFPE or FF samples from human, mouse or other species, MERSCOPE is a versatile choice for spatial transcriptomics.

We offer both panels and cost-effective custom assay design for hundreds of your target genes. Send us your gene list and we will create custom MERSCOPE probes for your unique research.



MERSCOPE® Web Visualizer Software enables interactive analysis of detected transcripts, segmented cell boundaries, and high-resolution images.

## RNA Sequencing

### Using Illumina NovaSeq™ 6000

The workhorse of transcriptomic research, we offer next-generation sequencing (NGS) services for mRNA-seq, total RNA-seq, and FFPE RNA-seq. We bring a collaborative approach, offering consultative discussion on sample type, library prep methodology and sequencing depth.

RNA-seq is a powerful tool to study the transcriptomic profiles of cell populations, facilitating discovery of transcripts and differentially expressed genes that can be missed by microarray assays. Using ROSALIND for analysis, we can link changes in transcript abundance and biological impacts with pathway analysis. RNA-seq provides both transcript discovery and quantification using the high throughput NGS, allowing a better understanding of the mechanisms responsible for specific diseases or drug responses.

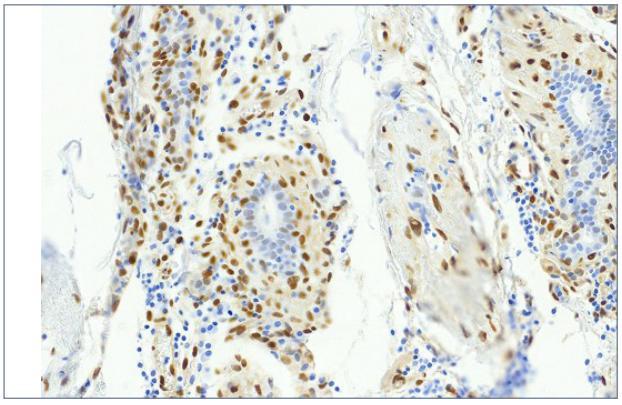
## Histopathology, FISH, and Immunohistochemistry

We operate a CLIA-certified laboratory specializing in immunohistochemistry (IHC), histopathology, and molecular analysis including fluorescence in situ hybridization (FISH) for DNA and RNA.

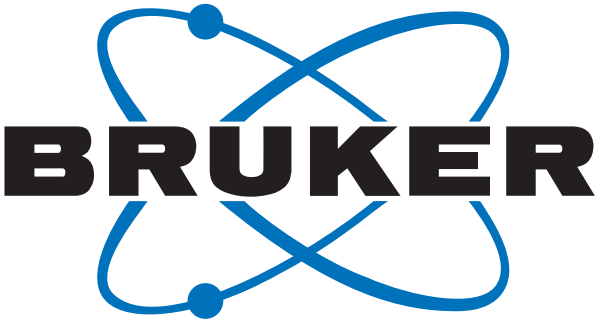
General histopathology service capabilities include tissue processing, slide preparation, IHC staining, immunofluorescent (IF) staining, whole slide scanning, and slide review and tumor scoring by board-certified pathologists.

Our expert scientists process histology slides to evaluate antibodies of interest for specific and non-specific tissue reactivity. We can provide high quality results to support your research projects, to accelerate your team's development work, and to bridge the gap between pre-clinical and clinical applications.


Each comparison has several key pieces of data and analysis available to assess differential gene expression all in a single view. Access pathway analysis from this screen to assess biological impacts of experimental changes.



Nuclear staining of a breast cancer sample for phospho-STAT3 (Tyr 705), as phosphorylated STAT3 is the activated form of this transcription factor, which may play a role in malignancy of breast cancer and other tumors.




**Bruker Spatial Biology |** For more information, visit brukerspatialbiology.com/services

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