



BRUKER SPATIAL BIOLOGY

CellScape[™] XR Platform

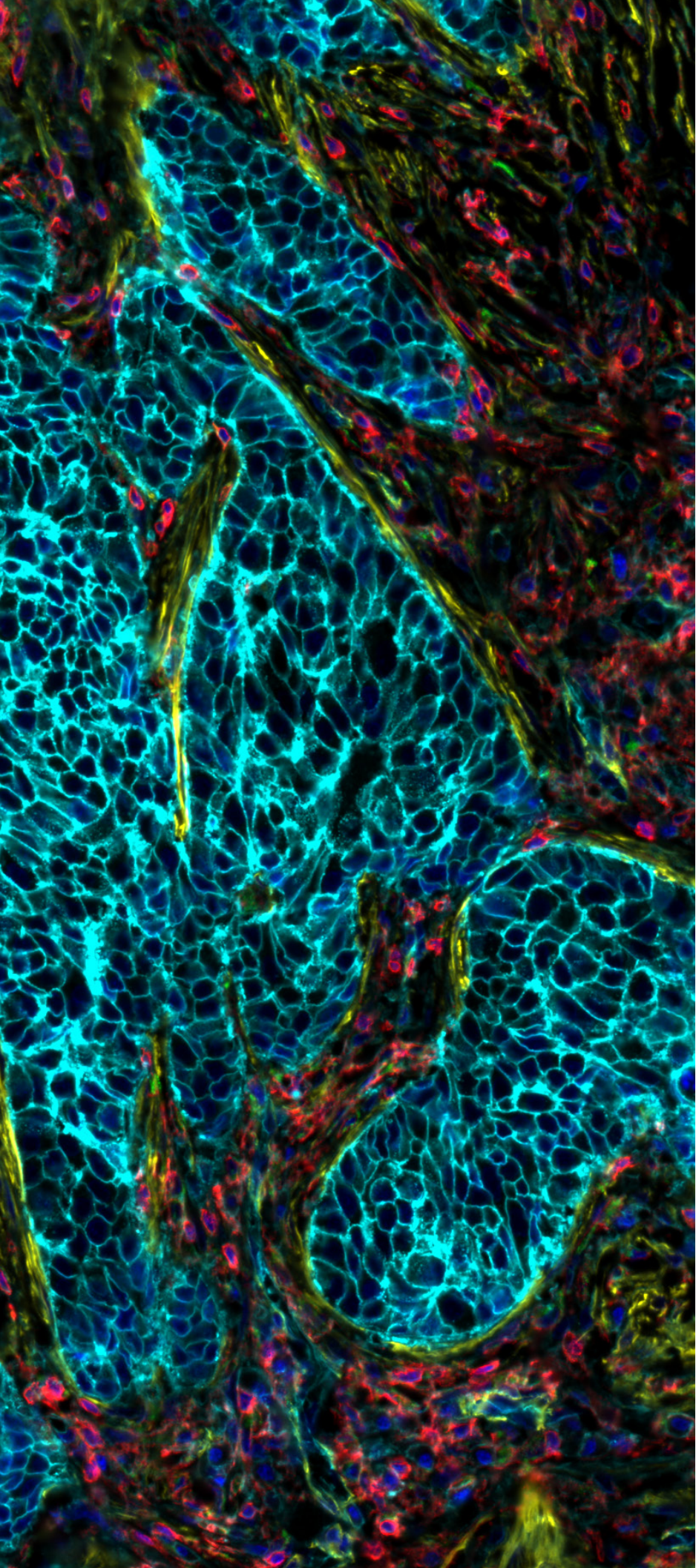
Flexible subcellular proteomics for rapid and quantitative spatial phenotyping

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Introducing the CellScape XR Platform

The Highest Performance Spatial Proteomics Ecosystem on the Market The CellScape XR platform is the only spatial proteomics system designed to combine best-in-class quantitative performance, experimental flexibility, and scalable throughput. It enables confident single-cell spatial phenotyping across entire tissue sections while supporting customizable assays and faster completion of high-plex studies.



From Images to Discovery

Quantitative Performance

The only spatial biology platform with both single-cell resolution and automated high dynamic range (HDR) microscopy, the CellScape XR platform enables truly quantitative phenotyping with exceptional data quality.

Unmatched Flexibility

An open platform supporting customizable, biology-driven assay design with modular, ready-to-use panels, over 6,000 off-the-shelf conjugated antibodies, and rapid conjugation of new targets in minutes.

Straightforward and Reliable

Simple chemistry and robust performance that gets you productive sooner, with scalable cost, throughput, and plex.

High Throughput

Achieve clinical scale throughput with whole-slide bleaching and 7-channel optics.

EpiclF™ Technology

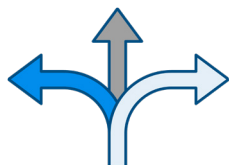
Enhanced Photobleaching in Cyclic Immunofluorescence

Our groundbreaking cyclic immunofluorescence workflow is driven by gentle yet powerful signal removal, compatible with nearly any fluorophore, and designed to enhance your unique high-plex spatial proteomics research without compromise.



Expansive

Use any organic dye from the rhodamine, cyanine, or BODIPY families on the CellScape instrument.



Flexible

Combine multiple fluorescence-based assays, including IF, RNA-ISH, and proximity ligation, on the same sample.



Reliable

Gentle signal removal with EpiclF Solution and white light preserves epitope and tissue integrity.

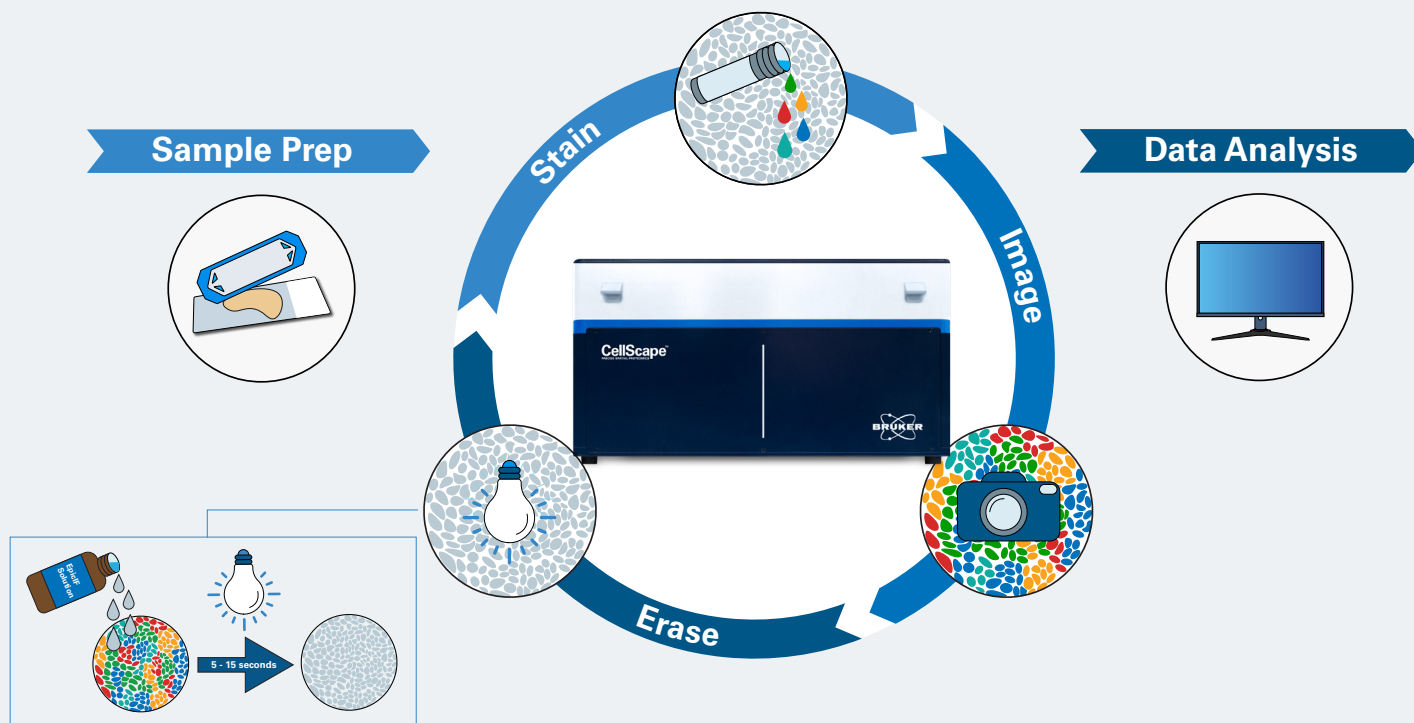
EpiclF technology is powered by the CellScape Navigator software for intuitive experiment planning, instrument control, and data export.



Learn More
about EpiclF
Technology

The EpicIF™ Workflow

For the CellScape XR platform



1

STAIN

Stain sample with up to 5 fluorescently labeled antibodies in a single cycle

NEW: Fully automated RNA staining is now integrated, enabling seamless protein + RNA workflows in the same run.

2

IMAGE

Quality optics and HDR imaging achieve true single-cell resolution

3

ERASE

Filtered photobleaching with EpicIF Solution gently eliminates fluorescence signal to start the cycle again

NEW: Whole-slide photobleaching accelerates signal removal, increasing end-to-end throughput for high-plex experiments.

4

REPEAT

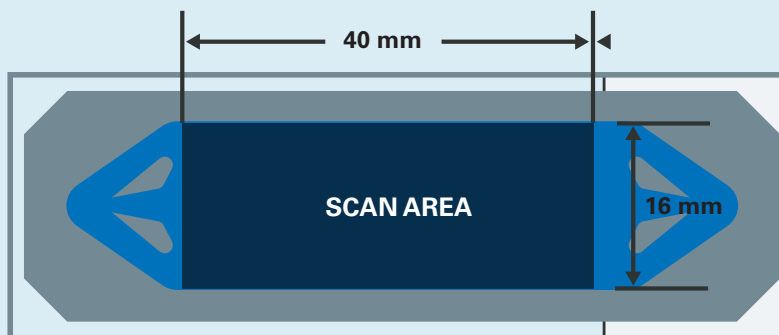
Utilize unlimited cycles to achieve highly multiplexed biomarker detection

Flexibility for Today... And Tomorrow

Use the CellScape Whole-Slide Imaging Chamber for automated multiplex staining, high-resolution imaging, and safe sample storage.

See Everything

View large tissue sections to uncover key biological insights and enable complex analyses. Uncover tissue diversity, identify patterns of cell-cell interactions, and locate regions of interest for further exploration.



Convert any standard microscope slide into a microfluidic chamber, maximizing available imaging area.

Versatile Sample Compatibility

The CellScape Whole-Slide Imaging Chamber enables the analysis of:

- Large tissue sections (FF or FFPE)
- Technical replicates on the same slide
- Tumor microarrays (TMAs)
- Cell suspensions

Future-Proof Spatial Biology

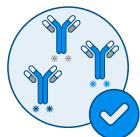
Once samples are loaded in a Whole-Slide Imaging Chamber, they can be safely stored for future analysis. Analysis on the CellScape XR platform is non-destructive and the same sample can be explored repeatedly, adding new markers each time.

Learn more
about
Data-Driven
Assay
Expansion



Accessible Platform, Reagent Flexibility

With flexible reagent choices and panel design, researchers can design custom panels for any immunology, oncology, or neurobiology application.



Use Our Pre-Optimized Panels

Ready-to-use, expandable multiplex antibody panels with optimized protocols, designed and validated for the CellScape platform give you a jump start on successful assay design.



Label Any Antibody

Simply label any primary antibody in under 10 minutes with only 1 µg of protein, and it's ready for use on the CellScape platform.



Use Your Own Markers

EpiclF technology enables the use of antibodies fluorescently labeled with any organic dye. Create panels using your own antibodies or add your antibodies to any combination of our VistaPlex™ Multiplexing Assay Kits for unmatched assay design flexibility.

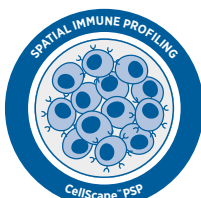
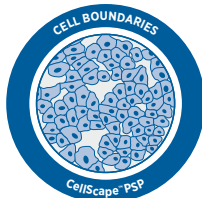


Let Us Do the Work for You

Save precious time and let our team of experts create, validate, and deliver your next custom panel.



VistaPlex™ Multiplexing Assay Kits provide robust, reliable detection of key immunophenotypes involved in:

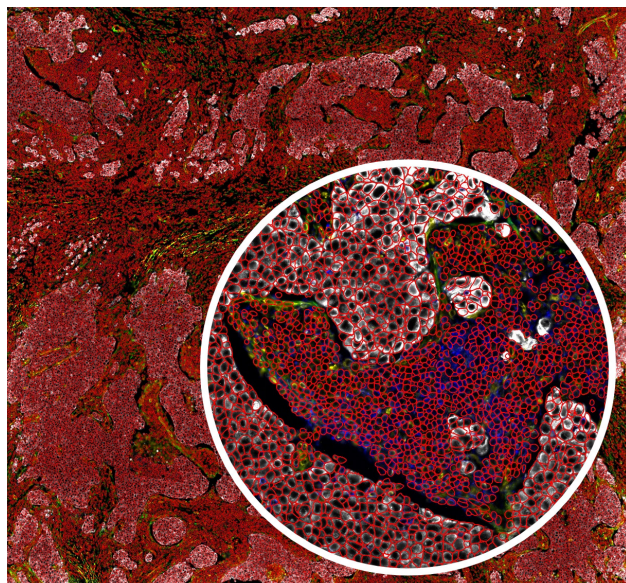




**See the big
picture, the
small details,
and everything
in between**

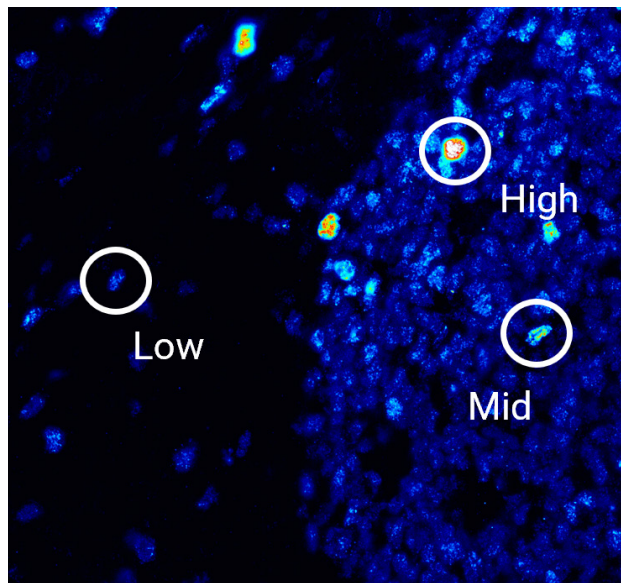
Designed for Deep-Cell Spatial Phenotyping

The CellScape XR platform enables advanced quantitative analyses of every cell in your sample via any third-party analysis pipeline.



Cell Segmentation

Pair the high-resolution imaging of the CellScape XR platform with the VistaPlex Cell Boundaries Kit for accurate definition of cell boundaries. This method is more precise than nuclear segmentation and enables the capture of diverse cellular morphologies.



HDR Enables Quantitative Phenotyping

Sub-cellular resolution and high dynamic range (HDR) together are required for quantitative and precise deep phenotyping. With this combination fully automated, the CellScape XR platform is optimized for generating spatial proteomics datasets.

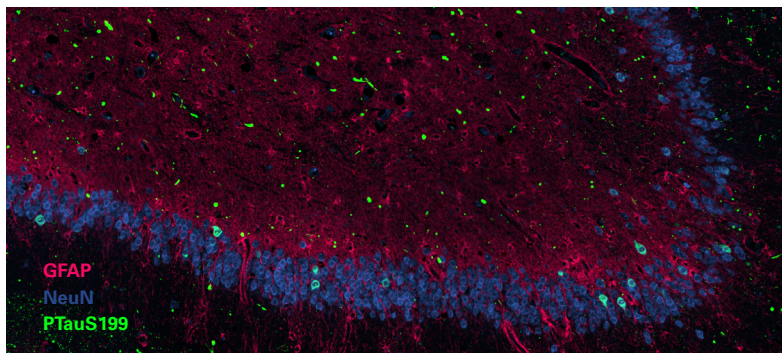
Advanced Spatial Analyses

With a standard OME-TIFF file output, data from the CellScape XR platform can be analyzed with open-source or subscription-based spatial analysis pipelines, providing versatility in data analysis to advance your research and discovery.

Explore Applications

Validate Biomarkers with Single-Cell Precision

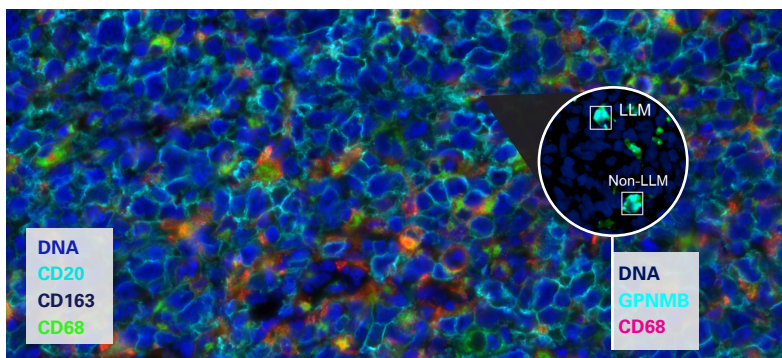
High-plex multiplex immunofluorescence on the CellScape XR platform enables direct validation of proteomic and transcriptomic signatures identified in upstream discovery workflows. Single-cell spatial phenotyping confirms candidate biomarkers within intact tissue while preserving biological context.



Human Alzheimer's disease brain tissue stained with a custom 30-plex antibody panel to detect phosphoproteins. Data courtesy of Dr. Miranda Orr at Washington University in St. Louis.

Develop Relevant Panels to Detect Immune Cell Subtypes and States

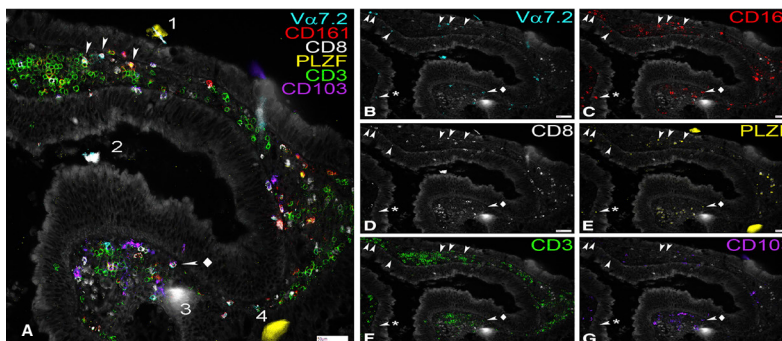
Customizable CellScape assays enable deeper interrogation of immune cell populations identified in discovery and translational studies. In CNS lymphoma, expanded macrophage profiling uncovered distinct lipid-laden macrophage phenotypes associated with a treatment response (Hong et al., 2025)



Human CNS lymphoma tissue microarray stained with a customized >30-plex immune profiling panel. Data courtesy of Dr. Anand Jeyasekharan from National University of Singapore.

Discover Rare Cell Types

Cells of biomedical interest are often present in low quantities. CellScape technology has been utilized to identify rare cell populations in colon epithelial tissue (Leng et al., 2019) and identify rare B cell types in tumor microenvironments (Zhang et al., 2024).



Human colonic polyp tissue stained with a multiplex antibody panel to identify MAIT cells within the lamina propria and colonic epithelium.



Visit our
Resource
Library

CellScape XR Platform

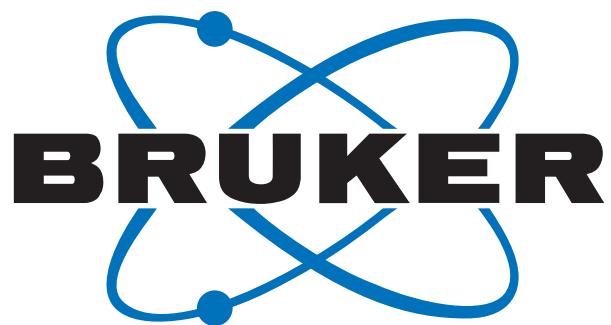
Product Specifications

Instrument Specifications	
Dimensions	CellScape XR Imaging Unit: 57 cm x 46 cm x 38 cm CellScape XR Fluidics Unit: 39 cm x 44 cm x 36 cm
Weight	60 kg
Additional Components	Light source, eBox, degasser, computer and monitor, barcode scanner
Automation	Walk-away staining, image acquisition, and enhanced photobleaching
Light Source	7-Channel Optics with Independently Controllable LED Excitation
Imaging Modes	Transmitted and fluorescence light
Sample Compatibility	FFPE tissues, FF tissues, Cell suspensions
Fluorescence Channels	Spectrally distinct filter sets for 5 color imaging
File Formats	OME-TIFF files
Software	CellScape™ Navigator: Single application that integrates experiment planning, instrument control, and data export

	CellScape XR Standard Mode	CellScape XR FalconFAST Mode
Objective	Plan Apo 20X 0.80 NA	Plan APO 10x 0.45 NA
FOV Size	0.8 mm ²	3.2 mm ²
Resolution*	278 nm	495 nm
Digital Sampling**	182 nm/pixel	365 nm/pixel

* Resolution is calculated with the following equation: $r = 0.61\lambda/NA$ using the shortest excitation wavelength ($\lambda = 365$ nm). The resolution in other channels will be higher.

** Digital sampling is independent of resolution and is calculated by dividing the pixel size of the camera by magnification.



Bruker Spatial Biology | For more information, visit BrukerSpatialBiology.com/CellScape



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