# CosMx<sup>™</sup> Spatial Molecular Imager

The First Fully-Integrated Single-Cell Spatial Biology Solution

CosMx Spatial Molecular Imager

nanoString





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# CosMx<sup>™</sup> SMI

Elevate your single-cell research

Understanding different cell types, how cells behave with one another, and their purpose enhances our ability to interpret biology and disease. The CosMx Spatial Molecular Imager (SMI) allows researchers to comprehensively map single cells in their native environment and extract deeper biological insights from a single experiment.

### **An Unmatched Single-Cell Spatial Solution**

#### **High Plex Panels**

More cell types, cell states and biological pathways

#### **Multiomic**

One system for RNA and protein

#### **Any Sample Type**

Real-world FFPE, fresh frozen, TMA, organoids and more

#### **High Resolution**

Single-cell analysis at subcellular resolution

### Simple and Flexible

Easy-to-use workflow with customizable panels and scan area

#### AtoMx<sup>™</sup> Spatial Informatics Platform

An integrated informatics solution, AtoMx SIP enables scalable data analysis, storage, and sharing



#### activated T cell

- cd141-positive mDC cd1c-positive mDC
- cd4-positive T cell
- cd8-positive T cell
   classical monocyte
- DZ B cell
- endothelial cell
  GC T cell
- innate lymphoid cell
   intermediate monocyte
- lymph vesselsLZ B cell
- macrophage
   mantle B cell
- mast cell mature NK T cell
- memory B cell
   naive B cell
   NK cell
- NK T cell
   pDC
- plasma cell
  regulatory T cell
- stromal cell
  T cell

Signaling Targets

Apoptosis DNA Damage Autophagy Metabolism

Ligands

Small Molecule Receptor

Other

Immune Status

Co Cp

Cell Type

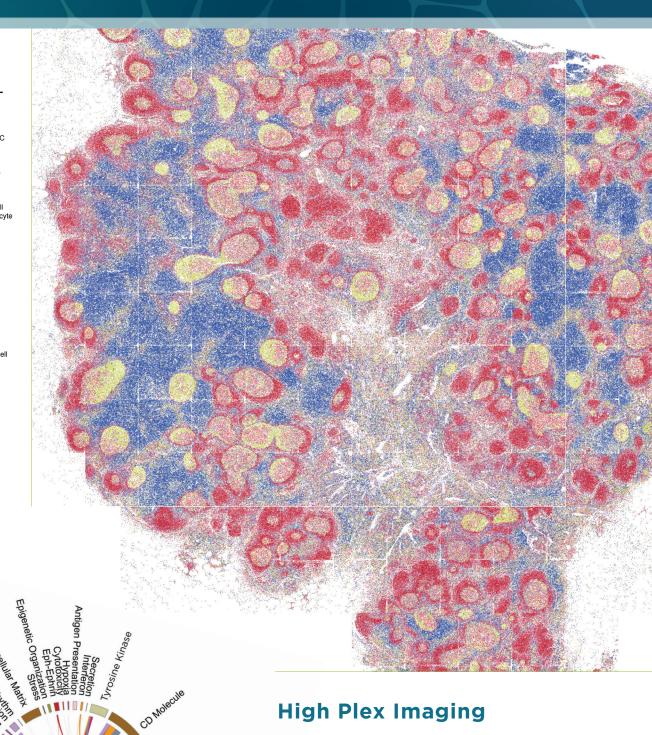
nness 11

1111

Hormones

Cytokines & Chemokines

- T follicular helper cell



### **High Plex Imaging**

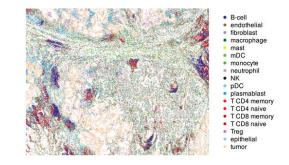
CosMx SMI delivers ultra high plex technology to image and quantify 1000 RNA and 64 Protein targets at singlecell resolution, enabling cell typing and pathway analysis to resolve cell state, cell function, cell-cell interactions and highly informative cell signaling.

# Spatial Applications Reveal unique biological insights

Single-cell data generated from intact fresh frozen (FF) or FFPE tissues using the CosMx Spatial Molecular Imager reveals deeper biological insights from a single experiment.

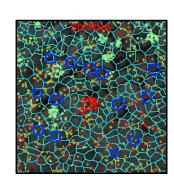


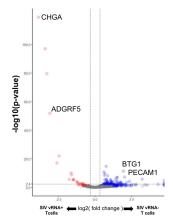
**Cell Atlasing / Cell Typing** Discover and map cell types using expression profiles of known RNA and protein targets





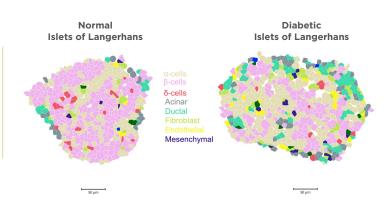
**Biomarker Discovery** Reveal differential gene expression and pathways in the same cell types depending on their spatial location

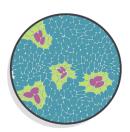




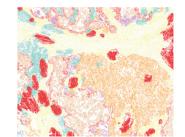


**Disease State** Visualize and quantify molecular (RNA / protein) and cellular organizational changes in a tissue





**Tissue Microenvironment** Understand cellular neighborhoods by examining individual cells and their interacting neighboring cells



plasmablast-enriched stroma

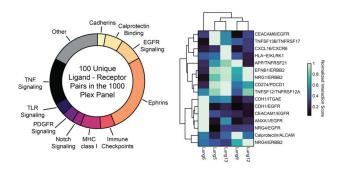
stroma

- lymphoid structure
- tumor-stroma boundary
- immune
- myeloid-enriched stroma
- tumor interior
- neutrophils
- macrophages
- plastmablasts



Ligand-Receptor Interaction

Analyze expression and interactions of up to 100 classic ligand-receptor pairs between interacting cells



# **Easy to Use**

# **Complete Sample to Insight Solution**



Simple Sample Preparation

A fast and easy-to-use workflow

#### **Automated Imaging**

Robust single molecule *In Situ* hybridization chemistry

#### **Integrated Data Analysis**

Comprehensive visualization and data analysis, scalable compute and storage with easy data sharing

# **Panel Assays**

Flexible options to cover your research needs



CosMx™ Custom Solutions Panel



CosMx™ Human Universal Cell Characterization Panel (RNA, 1000 Plex)



CosMx™ Human Immuno-oncology Panel (RNA, 100 Plex)



CosMx<sup>™</sup> Mouse Neuroscience Panel (RNA, 1000 Plex)



CosMx™ Human Immuno-oncology Panel (Protein, 64 Plex)

# **From Data to Insight**

# Introducing AtoMx<sup>™</sup> Spatial Informatics Platform

A complete cloud-based spatial biology informatics solution for fast and secure analysis and visualization of CosMx data anytime, anywhere.

#### Complete

Integrated spatial informatics solution for CosMx SMI and GeoMx<sup>®</sup> DSP.

#### Scalable

Cloud-based platform hosted on AWS enables scalable compute and storage to fit experimental needs.

#### Simple

No coding or scripting experience necessary to use prebuilt analysis pipelines.

#### Secure

PCI-DSS, HIPAA/HITECH, FedRAMP, GDPR, FIPS 140-2, and NIST 800-171 compliant.

**Flexible** Modify existing piplines or modules and create custom modules to analyze data.

### **AtoMx Analysis Modules**

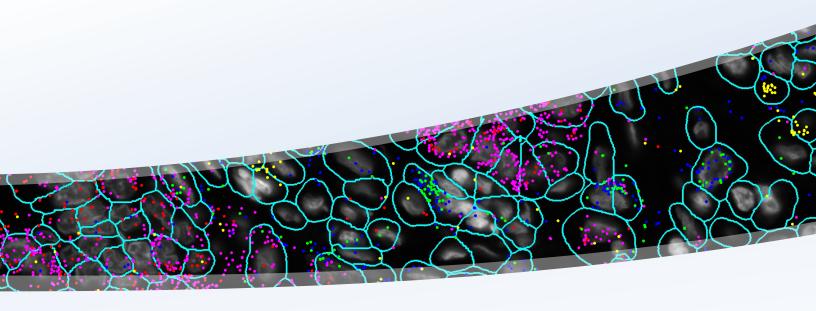


Foundational Analysis Modules	Spatial Analysis Modules	Analysis Pipeline	Custom Analysis Modules
QC	Ligand-Receptor	Foundational – RNA	User-Defined
Normalization	Nearest Neighbor	Foundational – Protein	
UMAP	Spatial Network		
Cell Typing	Cell Proximity Analysis		
РСА	Differential Expression		
Spatial Clustering			



#### **Instrument Information**

Product	Description	Catalog Number
CosMx Spatial Molecular Imager	CosMx Spatial Molecular Imager Instrument. Includes 1 year manufacturers warranty.	CMX-SMI-1Y
	CosMx Spatial Molecular Imager Instrument. Includes 1 year manufacturers warranty and 1 year service contract.	CMX-SMI-2Y
	CosMx Spatial Molecular Imager Instrument. Includes 1 year manufacturers warranty and 2 year service contract.	CMX-SMI-3Y
	CosMx Spatial Molecular Imager Instrument. Includes 1 year manufacturers warranty and 3 year service contract.	CMX-SMI-4Y
	CosMx Spatial Molecular Imager Instrument. Includes 1 year manufacturers warranty and 4 year service contract.	CMX-SMI-5Y



#### For more information, please visit <u>nanostring.com</u>

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