



Accelerating Novel Drug Development from Discovery to Clinic

We are working hard to bridge your discovery to the clinic; and scientists to patients

Founded by scientists; Empowering scientists; Trusted by scientists



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About Axela

AXELA BIOSCIENCES Inc. is a growing CRO based in New Jersey, specializing in drug discovery biology, translational sciences, bioanalysis and CLIA testing to **ACCELERATE** the development of novel therapeutics. We also offer a range of testing kits and products to support the life sciences industry.



**Preclinical Biology
& Translational
Sciences**



**Biomarker Discovery,
Validation & CLIA-
Certified Testing**



**Bioanalysis,
Immunogenicity &
Toxicity Evaluation**



**Immune Cells
& Testing Kit
Production**

Strong Team

Expertise Areas

◆ Ultrasensitive / Multiplex Immunoassays ◆ Large or Small Molecular Drugs ◆ Cell and Immunotherapy ◆ Cell Sorting ◆ Flow Cytometry ◆ Live Cell Imaging ◆ Gene and Protein Arrays ◆ Biomarkers ◆ Discovery Biology ◆ Translational Medicine ◆ 3-D Cell Culture /Spheroid/Organoids ◆ Multi-Omics ◆ Immunofluorescence, IHC and mIHC ◆ Spatial Proteo-genomics ◆ Bioanalysis ◆ *In Vitro* Toxicity ◆ Cancer ◆ Autoimmunity ◆ Immunomodulation ◆ Molecular Glues ◆ PROTAC ◆ ADC ◆ CDx ◆ LDT ◆ CLIA testing

Trained at



Worked at

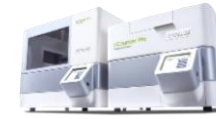


Cutting-edge Platforms

- ❑ NanoString GeoMx DSP (spatial transcriptomics and proteomics), 2 X
- ❑ NanoString nCounter Pro (genomic profiling), 2 X
- ❑ BioCare NeoPATH Pro Autostainer
- ❑ Leica Automatic Coverslipper
- ❑ Olympus SLIDEVIEW VS200 Whole Slide Imaging Scanner
- ❑ Flow Cytometry (CytoFlex S with 4 lasers, 13 colors), 2 X
- ❑ Simple Western (Gel-free capillary-based automatic western), 2 X
- ❑ Tecan Multimode Microplate Reader, 4 X
- ❑ FlexMAP3D (beads-based protein / gene array, 96- / 384-well format)
- ❑ Luminex 200 (beads-based protein / gene array, 96- well format)
- ❑ ABI QuantStudio Real-Time PCR, 2X
- ❑ LiCor Odyssey Near-Infrared Imaging System
- ❑ ELISpot Reader
- ❑ EVOS FL Auto Cell Imaging System
- ❑ AirClean 600 PCR Workstation
- ❑ Molecular Devices GenePix 4200AL Microarray Scanner
- ❑ Miltenyi Biotec autoMACS® Pro Separator
- ❑ MSD MESO QuickPlex
- ❑ Integra ASSIST PLUS automated multichannel pipetting Robots
- ❑ IncuCyte Live Cell Analysis System
- ❑ O-link Proteomic System
- ❑ and more...



**NanoString
GeoMx DSP
Spatial Biology**



**NanoString nCounter
Protein and Gene
Profiling**



**NeoPATH Pro
Autostainer**



**Invitrogen EVOS
FL Auto Live Cell
Imaging System**



**IncuCyte Zoom
Live Cell Imaging
System**



**CytoFLEX
Multiparameter Flow
Cytometry**



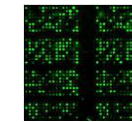
**ProteinSimple Simple
Western / Capillary-
Based Immunoassay**



**Luminex-200 and
FLEXMAP 3D Multiplex
Immunoassay**



**O-link
Proteomics
System**



**Forward and
Reverse Phase
Protein Arrays**



**Tecan Spark
Multimode Microplate
Reader**

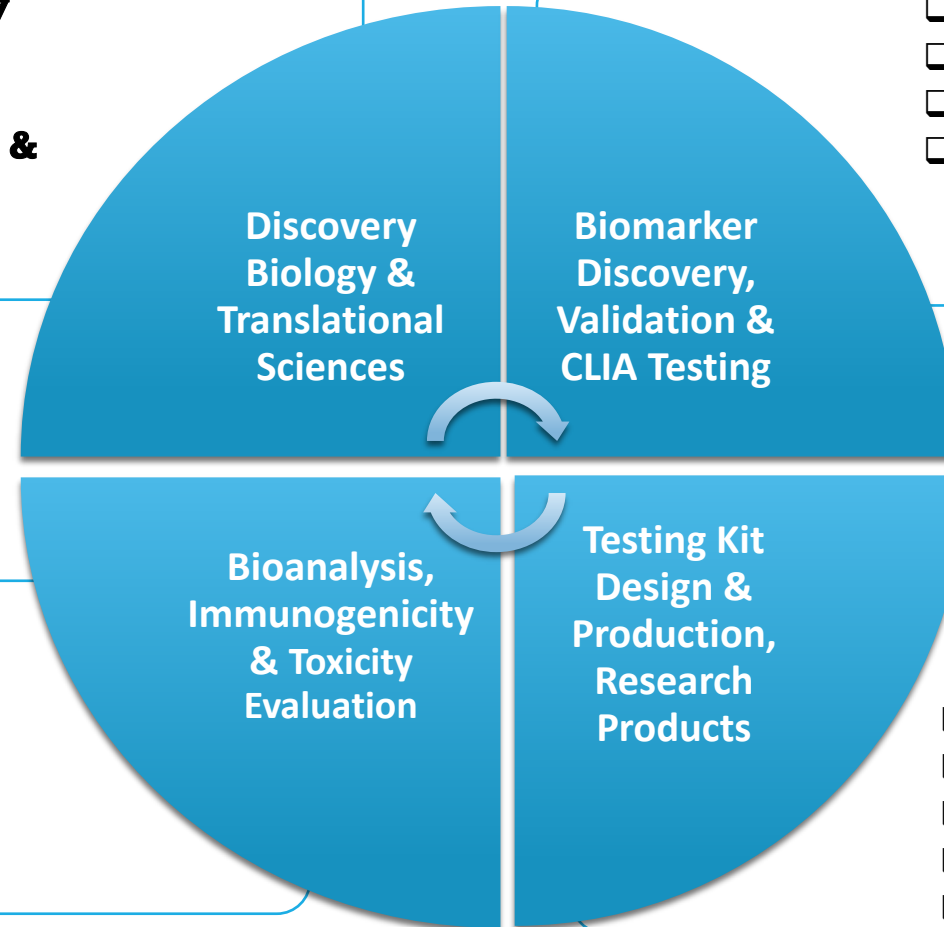


**QuantStudio
Real-Time PCR
System**

Focused Services

- Immunology & Rheumatology**
- Immuno-Oncology**
- Oncology & Hematology**
- IHC, mIHC, Spatial Genomics & Proteomics**
- 3D *in vitro* Models, Spheroids and Organoids**

- Biomarker Discovery & Validation**
- Biomarker Quantitation**
- LDT Testing**
- CLIA Testing**

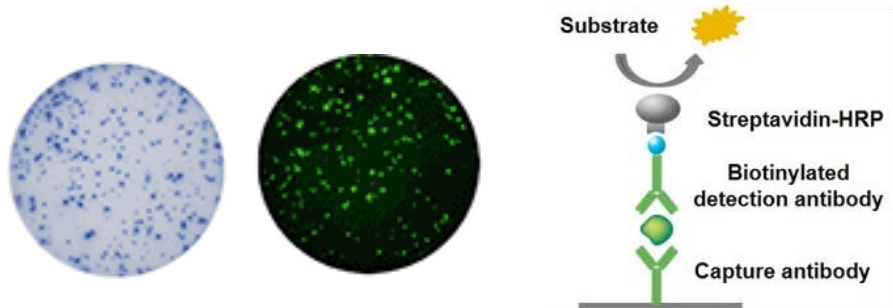


- Bioanalytical Testing**
- ADA Testing**
- Immunogenicity**
- In vitro* Toxicology**

- Human Primary Immune Cells**
- Human Native Skin and Tissues**
- Sample Collection Kits**
- LDT & CDx kits**
- Specialized reagents**

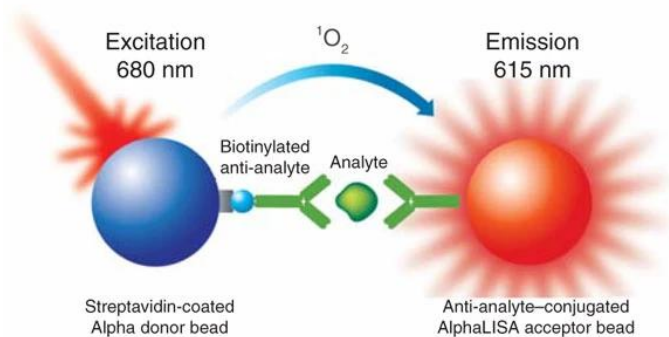
Ultrasensitive, High-plex Immunoassays

- AlphaLISA**
- AlphaPLEX**
- CBA**
- CytoTOF**
- DELFA**
- ELISA**
- ELISpot**
- FCM**
- FirePlex**
- FluoroSpot**
- FPPA**
- IF & mIF**
- IHC & mIHC**
- Immuno-PCR**
- LUMIT**
- Lumix**
- MSD**
- NULISA**
- O-link**
- ProQuantum**
- RPPA**
- Simoa**
- SimpleWestern**
- SMC**
- WB**

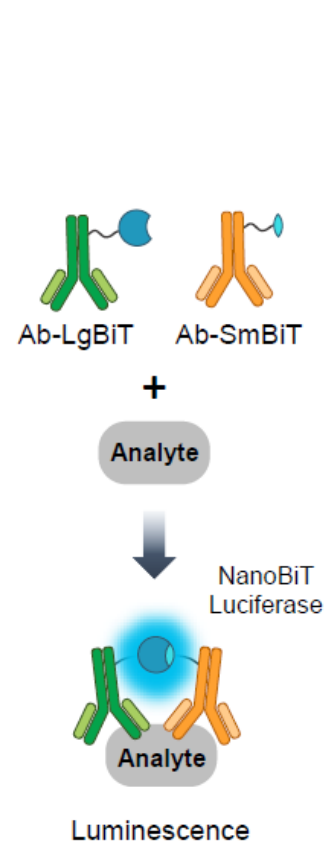


ELISpot

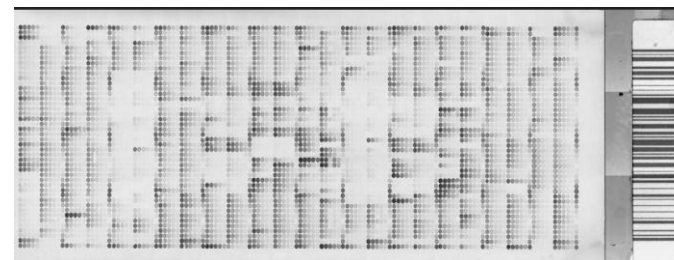
ELISA



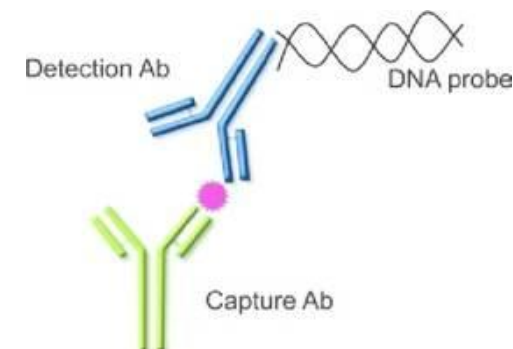
AlphaLISA



LUMIT



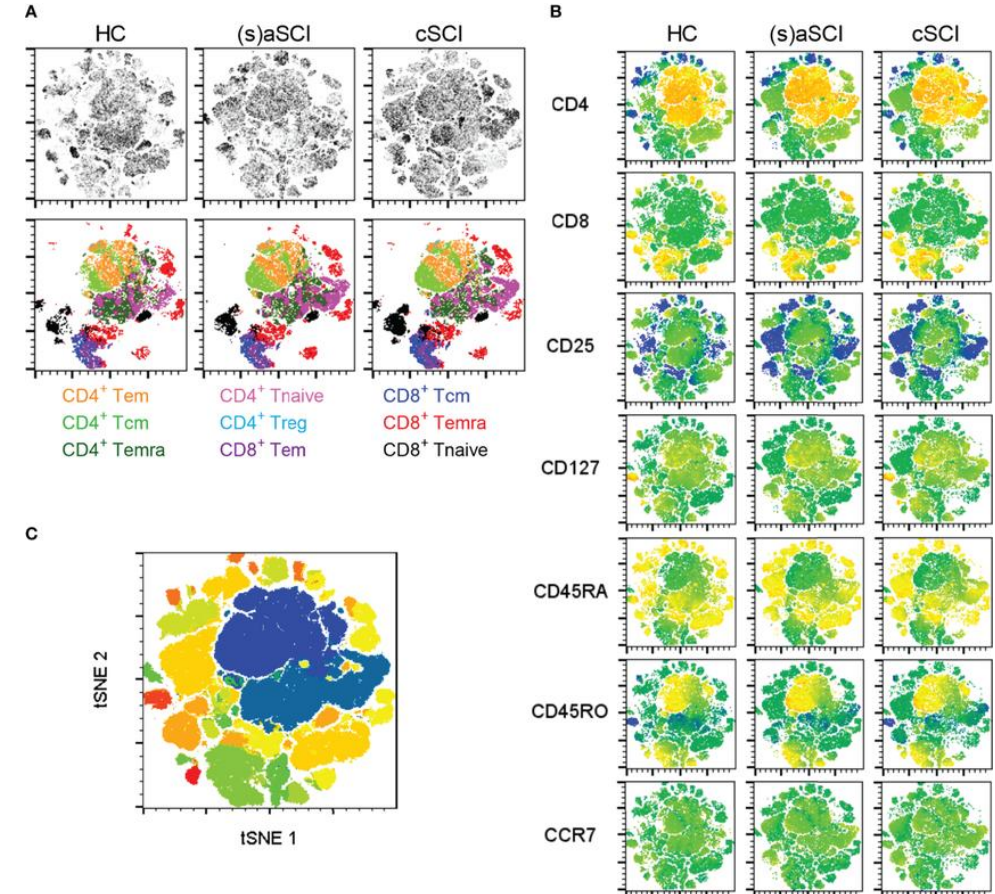
RPPA



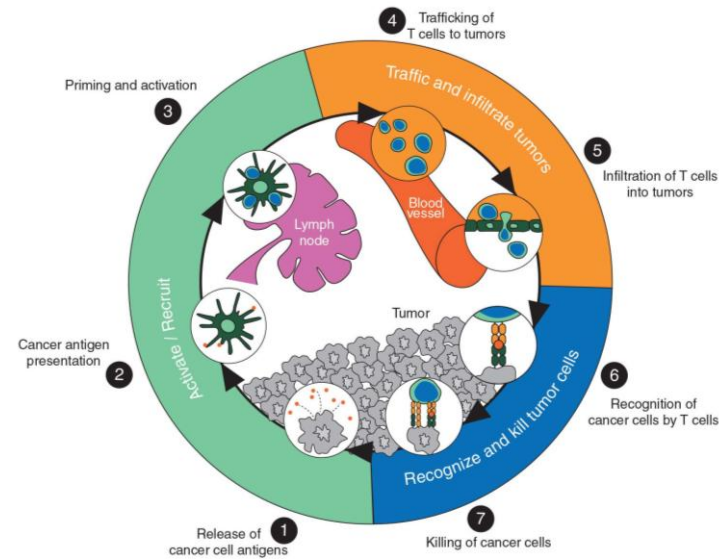
Immuno-PCR

High-dimensional Cytometry

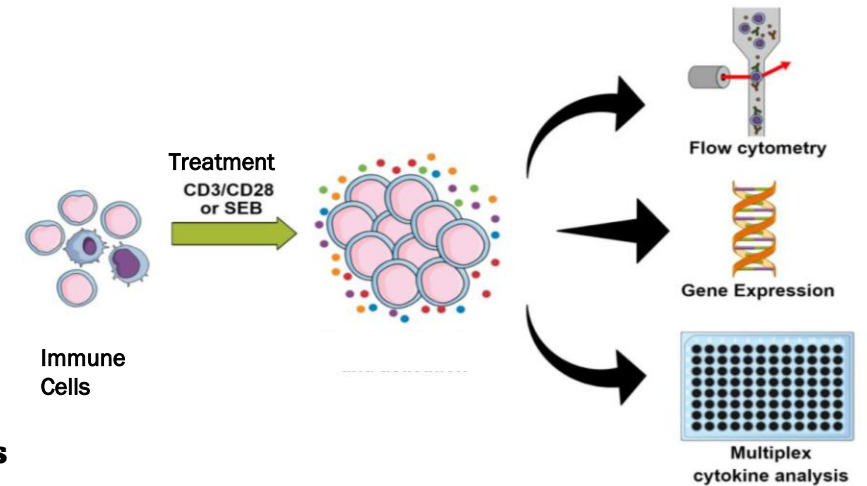
- Immunophenotyping
- PhosFlow Assay
- Quantification of Antibody Internalization
- Cell Signaling / Calcium Flux
- Multiplex Cytometric Bead Array (CBA)
- Multiplex miRNA Profiling
- Multiplex mRNA Assay (PrimeFlow)
- Cell Cycle, Proliferation, Apoptosis, NETosis, Phagocytosis
- Identification of Low Expressed Antigens
- Nano-particle Size Quantification, Cellular Up-take Analysis
- Cell Sorting
- Antibody Labeling
- Receptor Occupancy
- Micronucleus Assay for Genotoxicity
- And more...



Systematic Immuno-monitoring

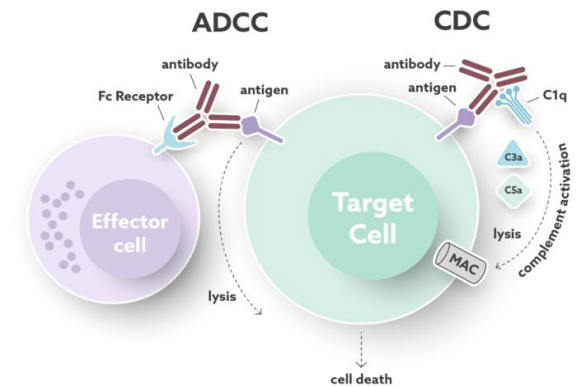


- **T Cell Functional Assays**
- **B Cell Functional Assays**
- **NK Cell Assays**
- **Monocyte/Macrophage, & Dendritic Cell Assays**
- **Mast Cell Degranulation Assays**
- **Neutrophil, Basophil & Eosinophil Assays**
- **Immune Cell Mediated Cancer Cell Killing Assays**
- **Novel Immuno-Oncology Target Screening Assays**



More examples:

- Tumor Infiltrating Lymphocytes (TIL) Analysis
- PD1/PD1-L Blockade Assay
- IDO-1, 2 Inhibitor Screening Assay
- Immune Checkpoint Molecule Array
- Antibody-Dependent Cell Cytotoxicity (ADCC)
- Complement-Dependent Cytotoxicity (CDC)
- Mast Cell Histamine Release
- Chemotaxis (T cells, Neutrophils)
- Cytokine Release Syndrome (CRS) Risk Assessment
- Immunogenicity Risk Assessment



High-throughput IHC & Imaging



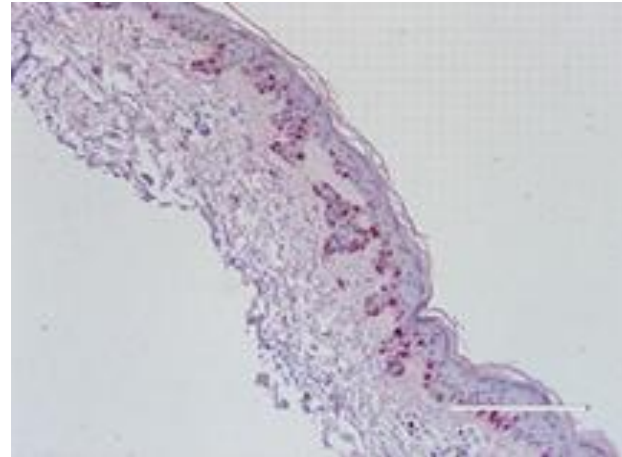
IHC, ISH and FISH Automated Staining with NPP (BioCare NeoPath Pro)

42-Slide Capacity | Trusted Antibodies | Validated Reagents | Simultaneous/Sequential Multiplex Protocols



High-resolution And High-throughput Slide Scanning for Advanced Research Applications, Such As Neuroscience, Cancer And Stem Cell Research, Immunology, Dermatology, And Spatial Biology

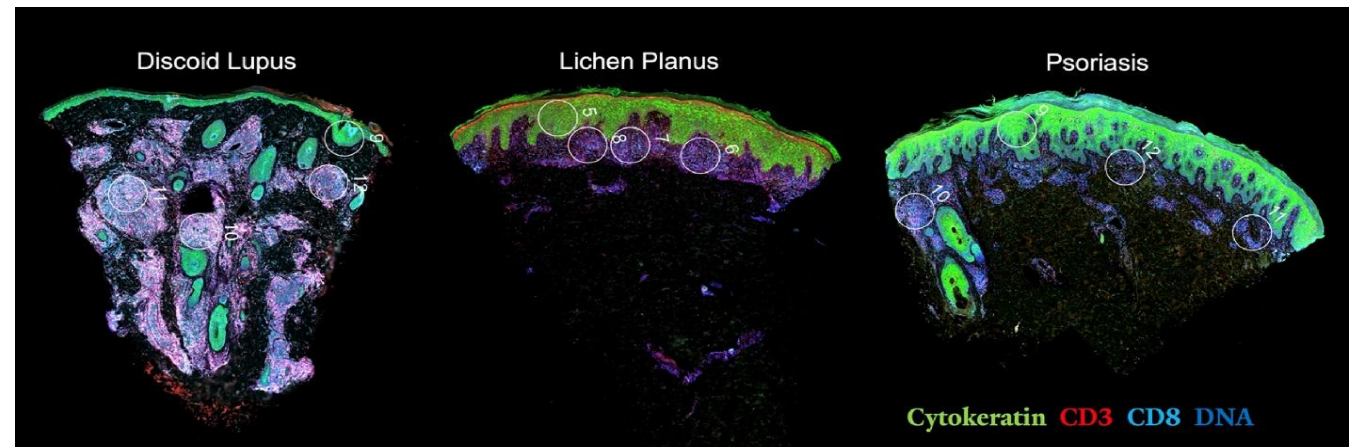
Olympus SLIDEVIEW™ VS200 Whole Slide Imaging Scanner



SOX10, Melanoma

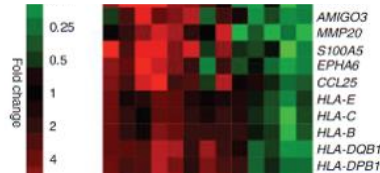


MART1, Melanoma

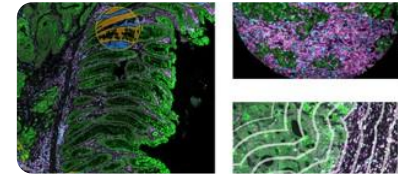


skin immune microenvironment is arranged spatially and temporally

Spatial Proteomics & Genomics



nCounter



DSP / GeoMx



Bulk Gene/Protein Expression Profile

Spatial Resolution of Gene/Protein Expression

SAMPLE INPUT

- 5000–20000 Cells

- 20-200 Cells
- Multi-Cellular

SAMPLE TYPE

- Tissue (FFPE / FF) / Biofluids

- Tissue (FFPE / FF) on glass slides

ANALYTE

- RNA, DNA, Protein

- RNA, Protein (using well-validated antibodies)

PLEX ABILITY

- ~800 Genes
- Translational

- Whole Transcriptome
- Discovery

DATA ANALYSIS

- Multiple pathway(s) analysis
- Clinical research signatures
- Cell type profiling

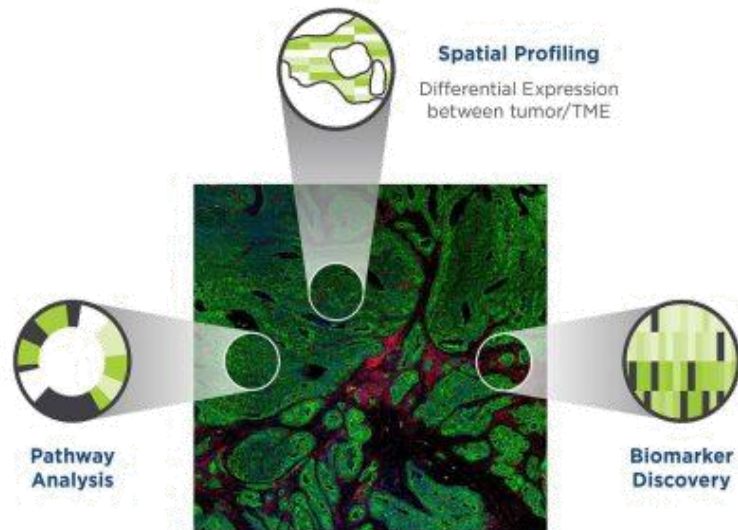
- Morphology and spatial context
- *In situ* Spatial resolution for any target

Advanced DSP



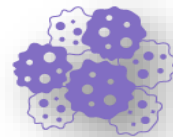
GeoMx DSP Platform, a flexible spatial solution for discovery and translational research

- Simultaneous *in situ* spatial analysis of proteins and mRNAs from a single tissue or cell samples
- Pre-designed panels for RNA and protein analysis
- Focused regions of interest (ROI) shed light on the true biology of each sample
- ROIs from different sections of tissues are analyzed individually to provide a clear picture of what is happening biologically
- Explore biology with more targets and analytes than ever before, getting publishable data faster
- Comprehensive end-to-end service with expertise in IHC, mIHC, pathology, sequencing, nCounter and GeoMx



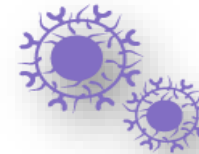
Applications

Oncology



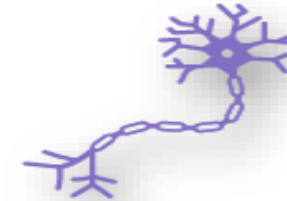
- Profile tumor heterogeneity, microenvironment, and cancer stem cells
- Identify tumor-infiltrating lymphocytes (TILs)

Immunology



- *in situ* immune repertoire characterization
- Immune response profiling of normal and diseased states

Neuroscience



- Contextually profile neural and stem cells
- Characterization of neurodegenerative disease pathology

Pathology

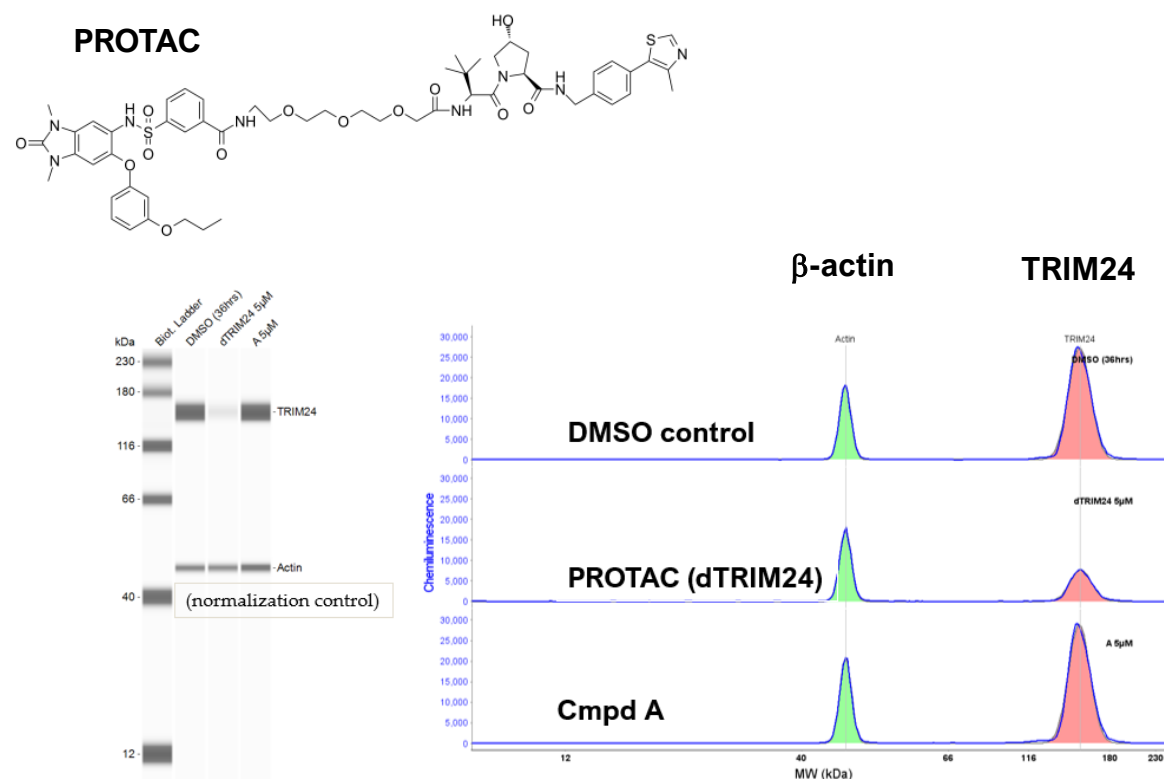


- High-plex analysis of expression in normal and diseased tissues
- Biomarker discovery and characterization
- Monitor therapy response

Preclinical Biology

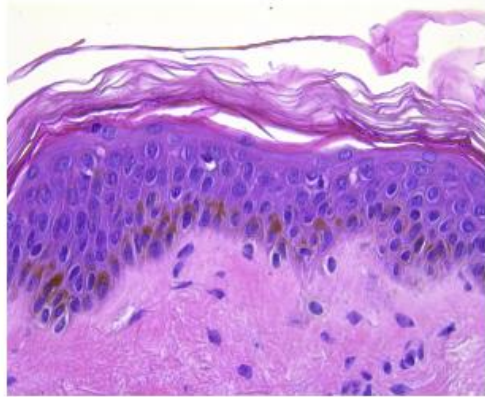
Example: Simple Western for Screening of Targeted Protein Degraders

- Discovery Biology & *In Vitro* Pharmacology
- MOA Studies
- High-throughput and High-Content Drug Screening
- Cancer Cell Profiling
- Tumor-immune 3D Culture and Organoids
- In Vitro*, *Ex Vivo*, 3D Culture Skin Models
- In Vitro* Toxicology
 - Genotoxicity (OECD); Immunotoxicity;
 - Hematotoxicity; Hepatotoxicity; Neurotoxicity;
 - Dermal & Ocular Toxicity (OECD)
- Support Various Modalities: small molecules, antibodies, ADCs, PROTACs, molecular glues, LNPs, and cell & gene therapies

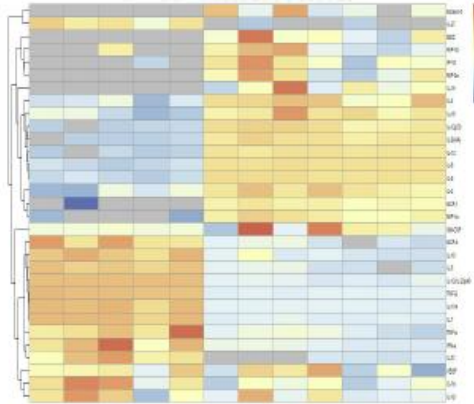


Multi-dimensional Data

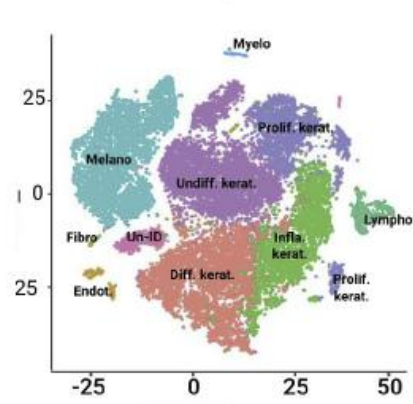
Histology & Image
Digitalization



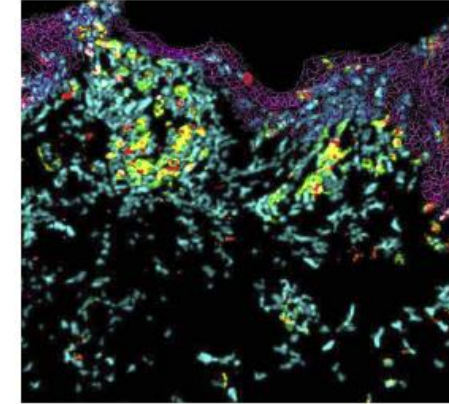
Multiplex Biomarker
Analysis



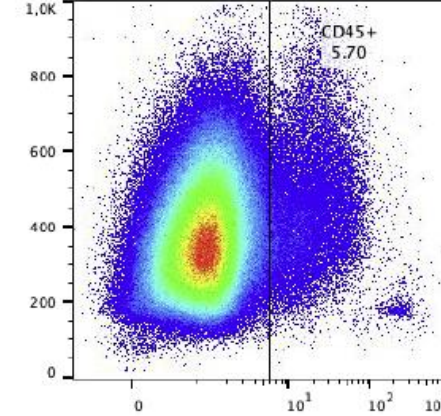
Transcriptomic
Analysis



Spatial Genomics
& Proteomics



Flow
Cytometry



Data acquisition and integration - Support for fast and right decision making



Selecting the most promising candidates



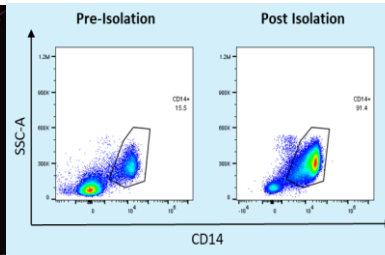
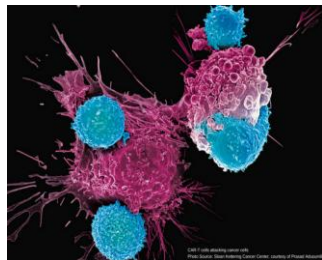
Identifying mechanism of action



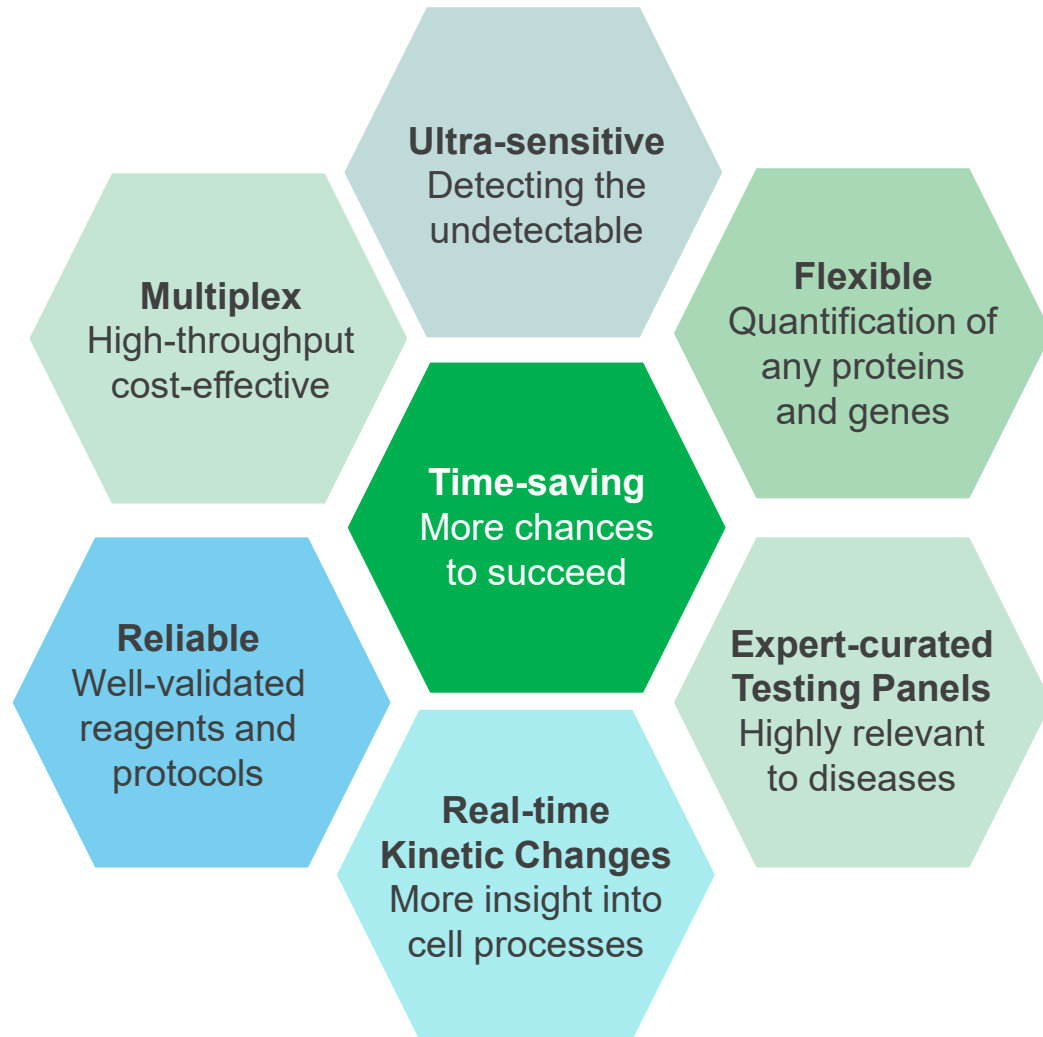
Predicting adverse effects or toxicity

Quality Products

- ❑ **High Purity and Viability Human Primary Immune Cells**
- ❑ **Reporter Cell Lines**
- ❑ **~200 Cancer and Other Cell Lines Ready for Targeted Drug Screening**
- ❑ **Custom Kit Design and Manufacture for IVD and CDx**
- ❑ **Magnetic Bead-Based Kits for Nucleic Acid Extraction and Protein Purification**
- ❑ **Sample Collection Kits for Diverse Sampling**
- ❑ **And more...**



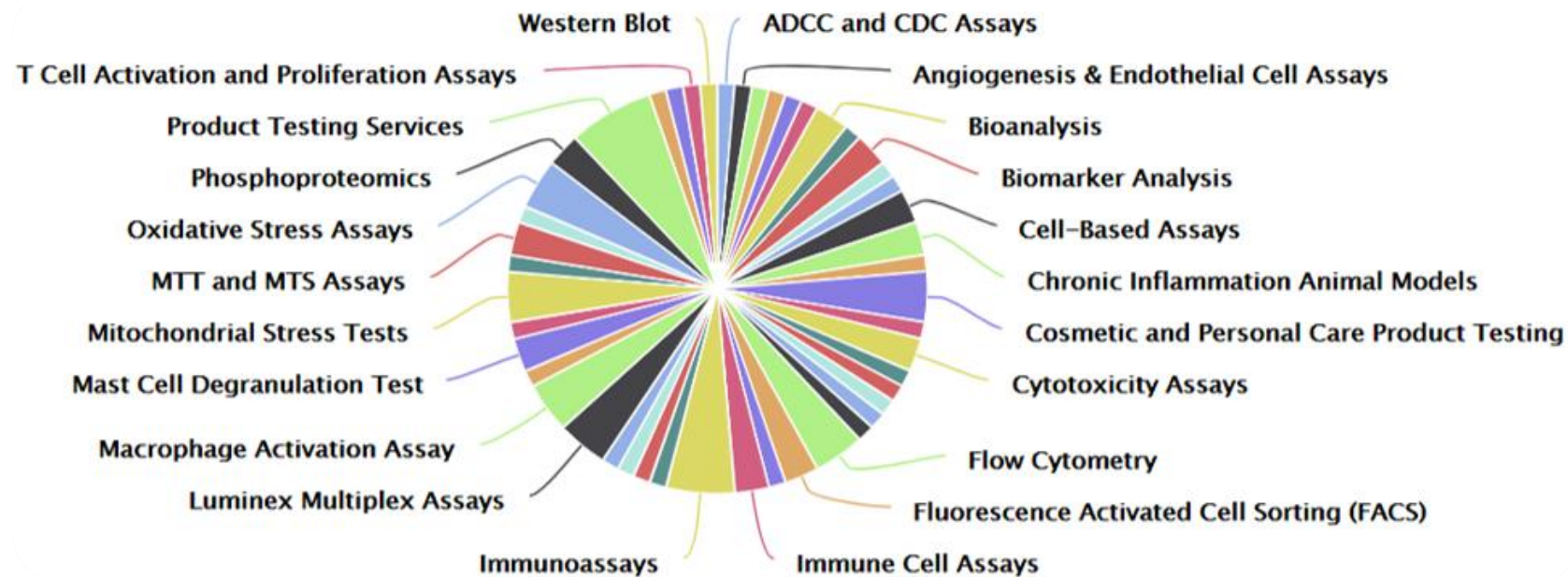
Technical Advantages



- Ultra-sensitive, miniscule amount
- Multiplex and high-throughput
- Real-time and kinetic changes
- Simultaneous spatial data of proteins and genes
- Qualitative and quantitative
- Better data with less animal use
- Expert-curated panels for novel modalities
(PROTAC, ADC, CGT, etc.)
- Diverse assay platforms and formats

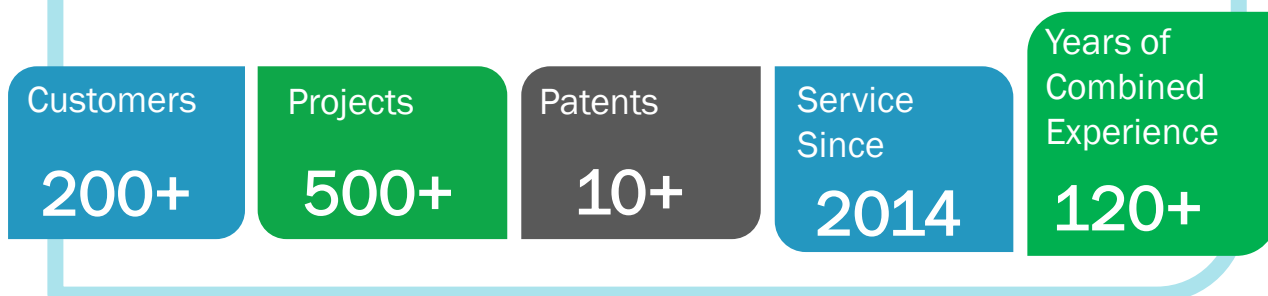
Top Performance

Rated as one of top performers in preclinical biology by Science Exchange in past years!



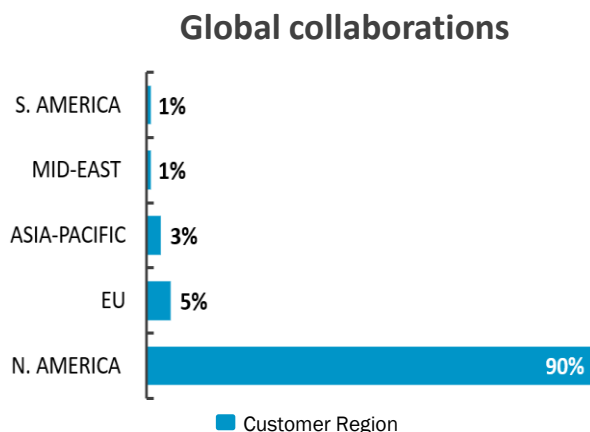
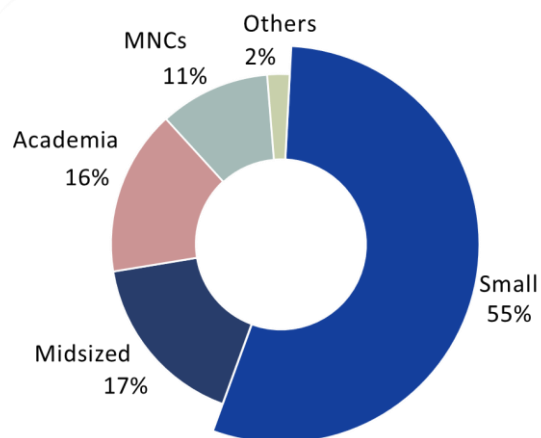
Global Customers

Trusted by Customers and Partners



Reliable Partnership

- Customized experiment design
- Timely and transparent communication
- Quick turnaround time
- Competitive pricing
- Strict IP protection and confidentiality
- Great flexibility for collaborations
- Fostering long-term relationships
- Convenient location in central NJ



Positive Feedback

“Your message is **very timely** as we just submitted the IND which contains all of your in vitro reports. Thanks for doing a **great job**. We would not have gotten this done without Axela...”

-Director of Operations, Chicago Biopharma

“Harris and his team did a great job with my immune cell assays. **They always respond quickly and go above and beyond with data delivery**. I will certainly work with them again.”

- Director L'ORÉAL

“Your team truly helped us get **better and real-time data** from our xenograft tumor model. We saved many mice in our model without satellite groups.”

- Professor



“We very much appreciate your **flexibility** to work with us and allowed quick assessment of antibodies. I also want to express our appreciation for your weekly data communication. It was **neat, clear, and transparent**. Thank you for your partnership.”

- Principal Investigator



“Working with the team removes the guess work. I always know the status of my project because their senior scientists communicates **directly and regularly**. I would be happy to work with you again in the future if we need assays done.”

- Director



“I was very happy with Axela for my FACS project. They were **very responsive and adaptable** to what turned out to be a more challenging project than I had originally anticipated, with quick response times to emails and **clearly written reports** on ongoing progress.”

- Principal Scientist



Key Takeaways

DISCOVERY BIOLOGY

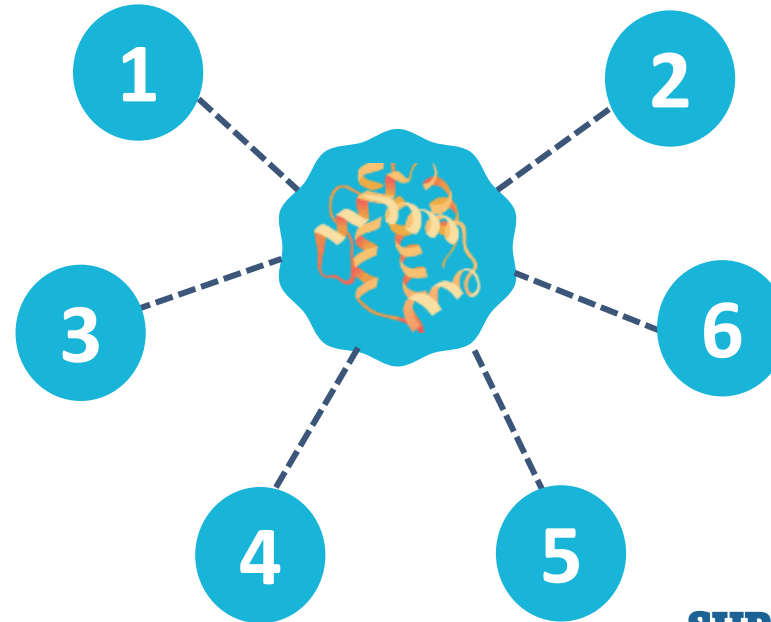
Discovery Biology & *In Vitro* Pharmacology MOA Studies
 High-throughput and High-Content Screening
 Cancer Cell Profiling
 Tumor-immune 3D Culture and Organoids
In Vitro, Ex Vivo, 3D Culture Models

TOXICOLOGY/IMMUNOGENICITY

In Vitro Toxicity (Cytotoxicity, Immunotoxicity, Hematotoxicity, Genotoxicity, Neurotoxicity; under OECD and ICH guidelines)
In Vitro Immunogenicity Assessment
 80+ Multiplex Cytokine Profiling

STATE-OF-THE-ART PLATFORMS

High-dimensional Flow Cytometry
 Systematic Immuno-monitoring
 IHC/IF/ISH, Multiplex Staining, & Spatial-omics Services
 Ultrasensitive and Multiplex Immunoassays
 Multiplex miRNA Profiling/mRNA Assays
 Live Cell Imaging
 Gene and Protein Arrays



TRANSLATIONAL SCIENCES

Biomarkers and CLIA Testing
 Multi-Omics
 Immunofluorescence, IHC, and mIHC
 Spatial Proteomics & Genomics
 Laboratory Developed Tests (LDT)
 Companion Diagnostics (CDx)
 Kit Production, Fulfillment & Distribution

SUPPORT VARIOUS MODALITIES

Small Molecules
 Antibodies & ADCs
 PROTACs and Molecular Glues
 LNPs, and Cell & Gene Therapies

SUPPORT VARIOUS INDICATIONS

Cancers (Solid & Hematopoietic tumors)
 Immunology & Inflammation
 Autoimmune, Asthma, Allergy
 Neurodegenerative diseases,
 Metabolic Diseases, etc.

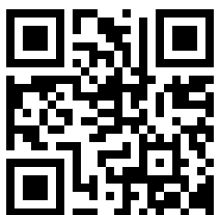


**THANK YOU FOR
YOUR ATTENTION!**



**LET'S WORK HARD
TOGETHER!**

Reliable Partnership to Accelerate Innovations



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