



# AXELA BIOSCIENCES

An Agile and Innovative Provider of Preclinical Services and  
Research Supplies

**Axela Biosciences Inc**, is a NJ-based specialized provider of research services and products. We are dedicated to partnering with biopharma scientists who transform patients' lives through the power of science.



Biopharma CRO  
Service



CLIA-Certified  
Biomarker Testing



Innovative Laboratory  
Products



Client-Focused  
Consulting

## Strengths

Discovery Biology, Translational Development, Bioassay, Biomarker, LDT, CLIA Testing, DMPK, MedChem

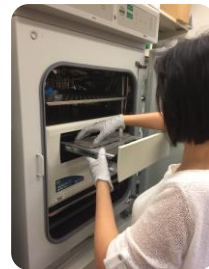
## Combined years of experience

60+

## Trained at



## Worked at



## Discovery Biology & Translational Development

Leveraging our cutting-edge platforms and expertise, we are committed to delivering best-in-class bioassays, CLIA-certified testing and innovative research products.

### We Focus on Bioassays & Biomarkers

Cancer &  
Immune Cell  
Assays

Cytometric  
Analysis

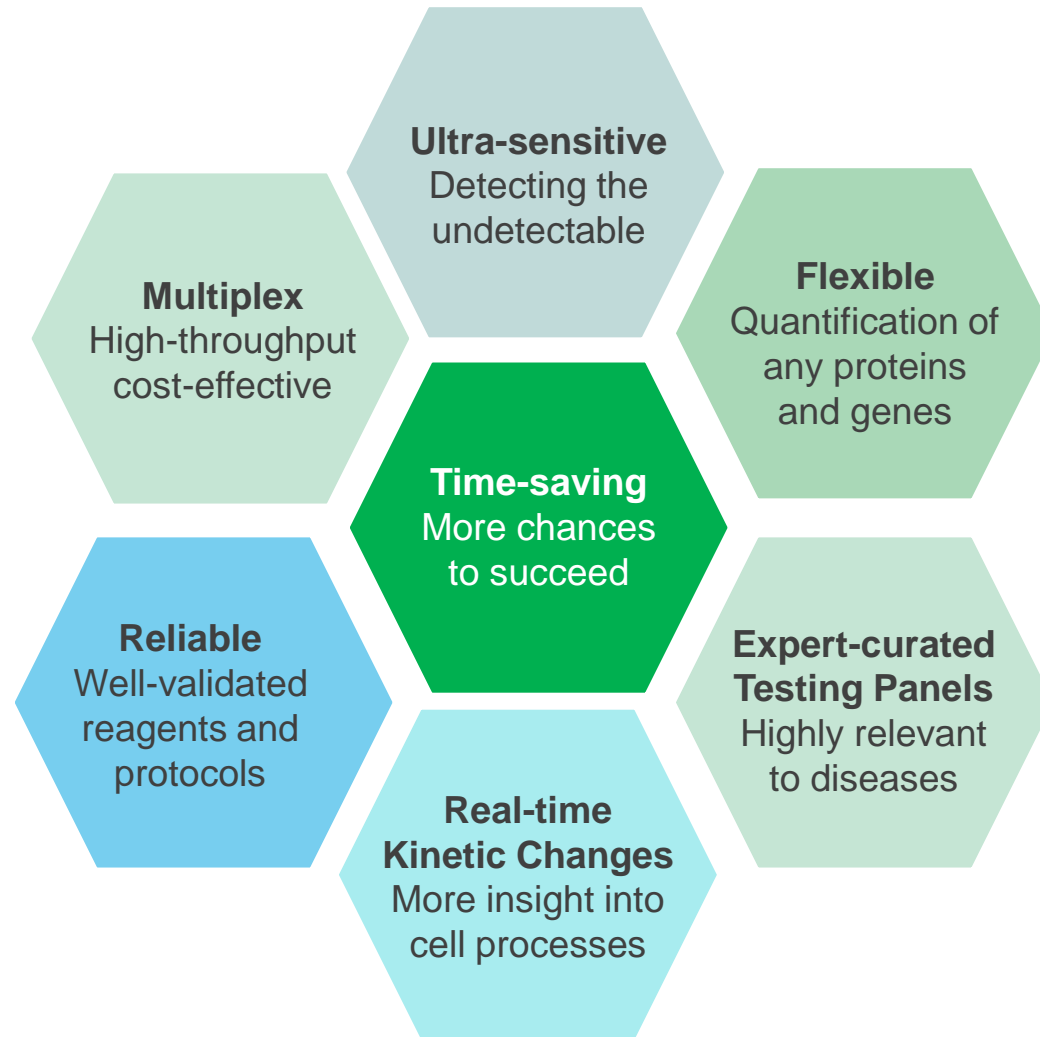
Proteomic &  
Genomic  
Arrays

Multiplex IHC &  
Spatial-omics

Ultra-sensitive &  
Multiplex  
Immunoassays

- ❖ High-Throughput and High-Content Assays for Drug Discovery
- ❖ Biomarker Discovery, Validation and Quantitation
- ❖ Immuno-oncology and Immuno-monitoring
- ❖ Spatial Proteomics and Genomics
- ❖ Forward & Reverse Phase Proteomic Arrays
- ❖ High-Dimensional Flow Cytometry and Immune Cell Functional Assays
- ❖ *In Vitro* Toxicology and DMPK
- ❖ Cell Coculture and 3-D Cell Culture for Disease Models
- ❖ Animal Models for Cancers, Inflammation and Autoimmune Diseases
- ❖ Customized Consulting Services

# ADVANTAGES



## Technical Advantages

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



# PLATFORMS

Application	Instrument	Multiplex	Sensitivity
Gene	❖ NanoString nCounter	800	Single molecule
	❖ QuantStudio Real-Time PCR	Up to 4	1-2 copies
	❖ Luminex 200 and Luminex FlexMAP 3D	80	1,000 copies per target
Protein	❖ NanoString GeoMx DSP-nCounter	96	Single molecule
	❖ NanoString GeoMx DSP-NGS	580	Single molecule
	❖ Luminex 200 and Luminex FlexMAP 3D	80	0.06-1 pg/mL
	❖ LUMIT	1	Low pg/mL
	❖ Simple Western	Up to 3	Low pg
	❖ Single Molecule Array (SIMOA)	2250×96×24	fg/mL
	❖ O-link Proteomic System	96	Low pg/mL
	❖ Forward and Reverse Phase Protein Arrays	Up to 274 and 500 respectively	Semi-quantitative & quantitative
Cell	❖ CytoFlex-S	Up to 15 color detection	Single cell
	❖ Invitrogen EVOS FL Auto Live Cell Imaging System	Up to 4 color detection	Single cell
	❖ IncuCyte Zoom Live Cell Imaging System	Up to 2 color detection	Single cell


PLATFORMS



NanoString GeoMx DSP  
Spatial Biology



NanoString nCounter  
Protein and Gene  
Profiling



CytoFLEX  
Multiparameter Flow  
Cytometry



Tecan Spark  
Multimode Microplate  
Reader



Forward and  
Reverse Phase  
Protein Arrays



ProteinSimple Simple Western  
and Capillary-Based Nano-  
Proteomic Immunoassay



Invitrogen EVOS FL  
Auto Live Cell  
Imaging System



Luminex-200 and FLEXMAP  
3D Multiplex Immunoassay



Simoa Ultra-  
Sensitive  
Immunoassay



IncuCyte Zoom Live  
Cell Imaging System



O-link Proteomics  
System



QuantStudio Real-Time  
PCR System

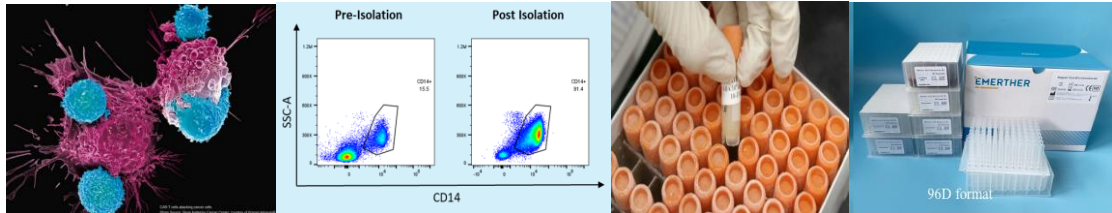
## Innovative Products Sourcing & Procurement

Specialty  
Biologic  
Products

Lab Reagents  
and Extraction  
Kits

Lab  
Consumables

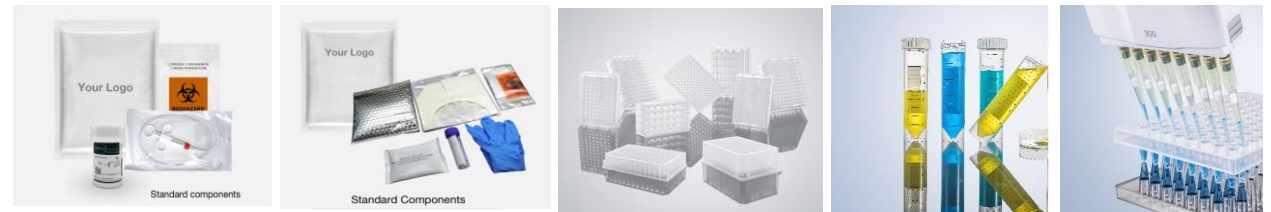
Custom  
Specialty  
Sample  
Collection Kits



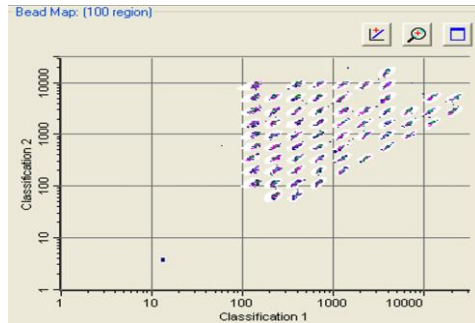
- ❖ High Purity and Viability Human Primary Cells
- ❖ Premium Ready-to-Use Reagents
- ❖ ~200 Cell Lines for Targeted Drug Screening
- ❖ Recombinant Human and Mouse Cytokines
- ❖ Magnetic Bead-Based Kits for Nucleic Acid Extraction, Protein Purification, and Cell Sorting
- ❖ ELISA and Luminex Kits
- ❖ High Quality Consumables for R&D and IVD Labs
- ❖ Custom Kit Design and Manufacture for IVD Labs



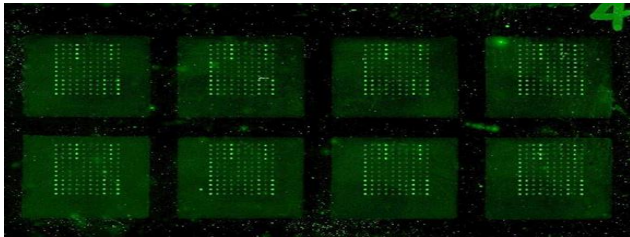
Download Our Product Catalog



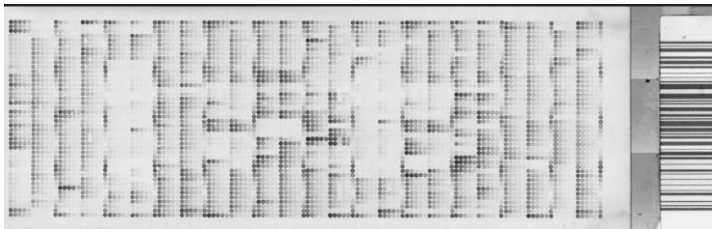
Luminex assay (384 well X 80 targets)



Forward phase protein array (antibody array)



Reverse phase protein array (500 targets/chip)

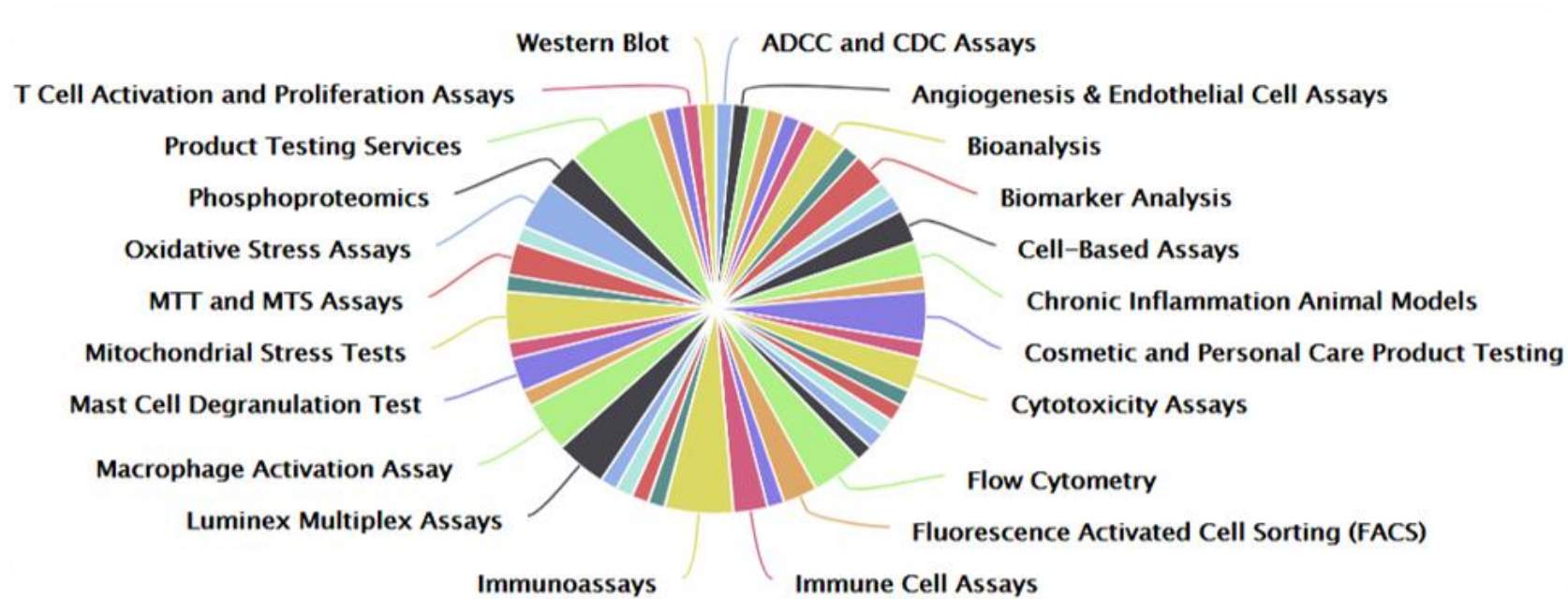


- ❖ Maximal information from minimal amount of test samples
- ❖ Better data acquisition
- ❖ Customized design so that each project is catered to achieve its specific goal
- ❖ Faster turnaround and more competitive price
- ❖ Carefully safeguard IPs and foster long-term relationships
- ❖ Confidence from each client, biopharma or academic, MNCs or startups

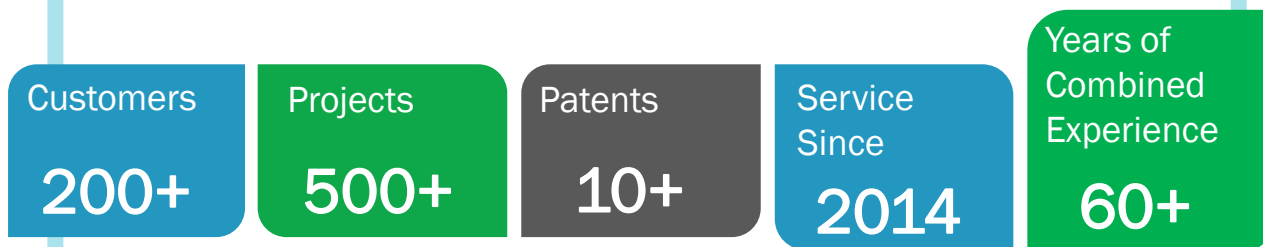




# RATED AS ONE OF THE TOP PERFORMERS

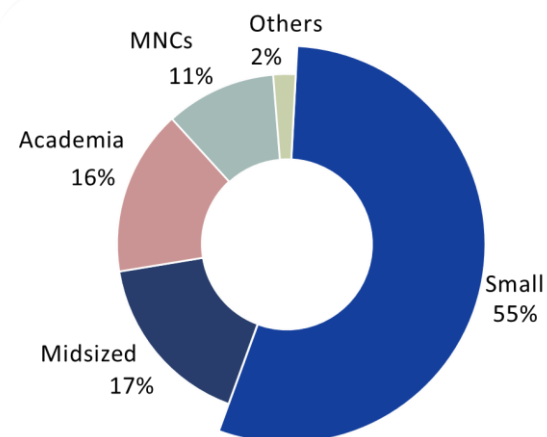


## Trusted by Customers and Partners

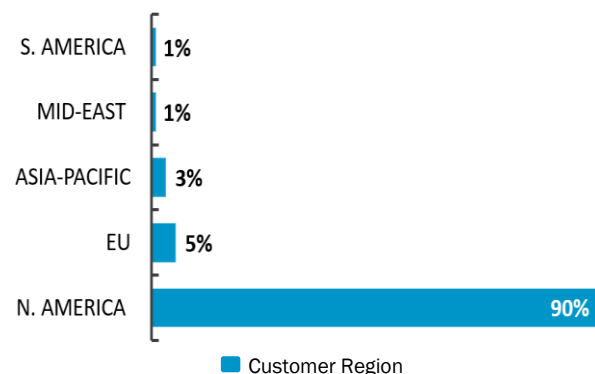


## Reliable Partnership

- ❖ Customized experimental 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



## Global collaborations



# CUSTOMER TESTIMONIALS

“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

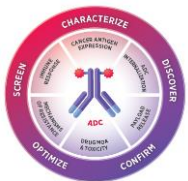


# WE SUPPORT VARIOUS MODALITIES

- Small Molecules, Antibodies, Peptides
- Protein Degraders (PROTACs, Molecular Glues, etc.)
- Antibody-Drug Conjugates (ADCs)
- Biospecific Antibodies (T-cell Engagers)
- Cell Therapy (CAR-T, CAR-NK)
- Gene Therapy (Gene-Editing)
- mRNA Therapies
- RNA Interference (RNAi)
- Oncolytic Viral Therapy
- Nanoparticle-Based Therapies



# MODALITY HIGHLIGHT 1: ADCs (ANTIBODY-DRUG CONJUGATES)



## Assays Supporting ADC Discovery and Development

### ADC Synthesis

- ❖ Linker design
- ❖ Linker payload synthesis
- ❖ ADC bioconjugation
- ❖ ADC process optimization
- ❖ ADC Purification and analytic services

### Antigen Binding Specificity & Potency

- ❖ High throughput selectivity and specificity testing
- ❖ Binding potency analysis
- ❖ Binding residential time analysis
- ❖ Surface antigen expression analysis
- ❖ Receptor density analysis

### Internalization

- ❖ Internalization kinetics analysis via flow cytometry or ELISA

### Payload Cytotoxicity Profiling

- ❖ Post-treatment proliferation analysis on >300 individual cancer cell lines
- ❖ Cancer cell panel screening across >200 tumor types
- ❖ Cell killing analysis (ADCC/CDC)
- ❖ 3D spheroid assays

### *In Vivo* Pharmacology Studies

- ❖ *In vivo* tox analysis using xenograft, syngeneic and humanized models
- ❖ Hollow fiber *in vivo* models to support candidate selection

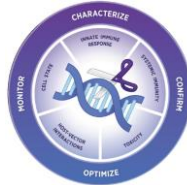
### *In vivo* Tox Studies

- ❖ *In vivo* DRF studies
- ❖ *In vivo* GLP tox studies

### Biomarker

- ❖ Method development and validation
- ❖ CLIA testing
- ❖ LDT development
- ❖ IVD submission
- ❖ CDx

# MODALITY HIGHLIGHT 2: GENE THERAPY



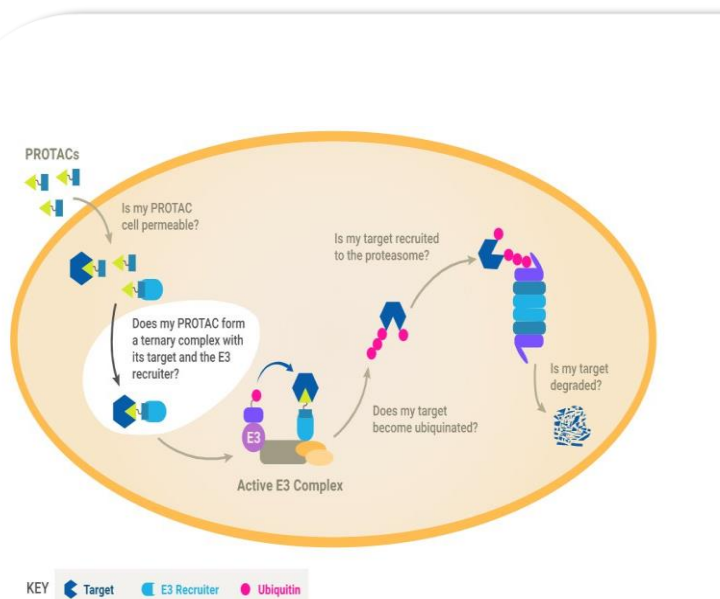
- ❖ Directly profile 800 genes across 40 pathways
- ❖ Study processes known to impact gene therapy development and manufacturing
  - Cell State
  - Host-Vector Interactions
  - Innate Immune Response
  - Systemic Immunity
  - Toxicity

## Assays Supporting Gene Therapy

Systemic Immune Response	Innate Immunity	Cell State	Toxicity	Host Vector Interactions
<ul style="list-style-type: none"> <li>❖ Chemokine Signaling</li> <li>❖ Cytotoxicity</li> <li>❖ IL-1,2,6,17 Signaling</li> <li>❖ Immune Suppression Targets</li> <li>❖ JAK-STAT Signaling</li> <li>❖ Leukotriene and Prostaglandin Inflammation</li> <li>❖ Lymphocyte Trafficking</li> <li>❖ MHC Class I, II Antigen Presentation</li> <li>❖ NFκB Signaling</li> <li>❖ Other Interleukin Signaling</li> <li>❖ T-cell Co-stimulation</li> <li>❖ TNF Signaling</li> <li>❖ Type II Interferon Signaling</li> </ul>	<ul style="list-style-type: none"> <li>❖ ALPK1 Signaling</li> <li>❖ Complement System</li> <li>❖ DNA Sensing</li> <li>❖ Glycan Sensing</li> <li>❖ Inflammasomes</li> <li>❖ Interferon Response Genes</li> <li>❖ NLR Signaling</li> <li>❖ Phagocytosis</li> <li>❖ RNA Sensing</li> <li>❖ TLR Signaling</li> <li>❖ Type I Interferon Signaling</li> </ul>	<ul style="list-style-type: none"> <li>❖ Autophagy</li> <li>❖ Glutamine Metabolism</li> <li>❖ Glycolysis &amp; Glucose Transport</li> <li>❖ p53 Pathway</li> <li>❖ Senescence</li> <li>❖ Mitochondrial Metabolism</li> </ul>	<ul style="list-style-type: none"> <li>❖ Apoptosis</li> <li>❖ Oxidative Stress Response</li> <li>❖ Proteotoxic Stress</li> <li>❖ Tissue Toxicity</li> </ul>	<ul style="list-style-type: none"> <li>❖ Restriction Factors</li> <li>❖ Vector Entry</li> </ul>

# MODALITY HIGHLIGHT 3: TPDs (TARGETED PROTEIN DEGRADERS)

## Assays for Screening and Characterization of TPDs



PROTACs and Protein Degradation

Cell Cytotoxicity	Degradation and Stability	E3 Ligase Activity	Ternary Complex Formation	Ubiquitination Analysis	Permeability
<ul style="list-style-type: none"> <li>❖ Cell Viability</li> <li>❖ Cell Proliferation and Cell Cycle Assays</li> <li>❖ Apoptosis Assays</li> </ul>	<ul style="list-style-type: none"> <li>❖ Simple Western</li> <li>❖ In-Cell Western</li> <li>❖ Flow Cytometric Analysis</li> <li>❖ Real-Time Degradation Kinetics Measurement</li> </ul>	<ul style="list-style-type: none"> <li>❖ Western Blot-Based E3 Ligase Activity Assay</li> <li>❖ ELISA-Based E3 Ligase Activity Assay</li> <li>❖ Tandem Ubiquitin Binding Entities (TUBEs)-Based E3 Ligase Activity Assay</li> <li>❖ TR-FRET-Based E3 Ligase Activity Assay</li> </ul>	<ul style="list-style-type: none"> <li>❖ Isothermal Titration Calorimetry (ITC)</li> <li>❖ Cell-Free Proximity Assays</li> <li>❖ Fluorescence Polarization (FP)</li> </ul>	<ul style="list-style-type: none"> <li>❖ Immunoprecipitation (IP) or Western Blot</li> <li>❖ ELISA</li> <li>❖ BRET</li> <li>❖ Fluorescence Polarization (FP)</li> </ul>	<ul style="list-style-type: none"> <li>❖ Parallel Artificial Membrane Permeability Assay (PAMPA)</li> <li>❖ Caco-2 Permeability Assay</li> <li>❖ MDCK Cell Line Permeability Assay</li> </ul>



**We Want to Hear from You**  
**Partnership to Accelerate Innovations**



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