

biotechne® / R&D SYSTEMS™

# Assay Insider

SUMMER 2025 // VOL.1 ISSUE 2



Working Towards  
Clinical Testing?

The 4 Key Factors  
Impacting Your Journey

Eco Impact

New kit packaging  
means less waste

You Define It

Have the terms of  
immunology changed?



**IMMUNOLOGY**

*Redefined*

# Assay Insider

Summer 2025 // Volume 1, Issue 2

## Immunology Redefined

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## Redefining Immunology

### Evolving research needs are reshaping the immune response landscape

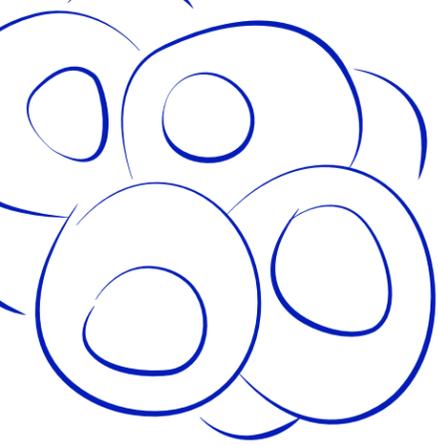
The story of modern immunology is one of constant transformation. Once defined by foundational principles of immune surveillance and pathogen defense, today's immune response research is a far more intricate pursuit.

What hasn't changed is the critical need for rigorous, reliable analytical techniques. From early discovery to translational applications, immunology research demands tools that perform consistently, adapt easily, and generate data that moves science forward.

### Where Discovery Leads

That's why our approach to immunology is centered on putting you in control—empowering you to define your research on your terms. We offer flexible, high-performance tools built to meet the demands of evolving experimental needs, so you can move confidently from idea to insight.

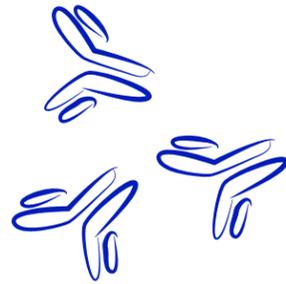
From standard **ELISAs** and high-purity proteins to our expanding antibody catalog and conjugated **flow cytometry reagents**, every product is purpose-built for accuracy and reproducibility. This breadth allows you to scale and customize your assays with confidence, knowing each component is optimized for performance.



# immunology:

i-myə-'nä-lə-jē : noun

the study of the ~~immune system~~  
*the underlying cause of every disease you've ever heard of.*



## Redefining Immunology

Immunology is no longer confined to static models or binary outcomes.

Immunology is a dynamic field shaped by systems biology, single-cell analysis, and translational insight.

### Precision and Speed

As the immune response becomes more defined by nuance than absolutes, the immunoassays used to characterize it must also evolve. It's no longer just about detecting the presence of a cytokine or tracking an immune marker—it's about doing so with speed, sensitivity, and precision.

That evolution begins with the building blocks. High-quality antibodies remain the cornerstone of immunoassay success, especially in multiplexed or automated formats where even minor variability can

skew results. Specificity, in particular—the ability of an antibody to distinguish between structurally similar analytes—is non-negotiable.

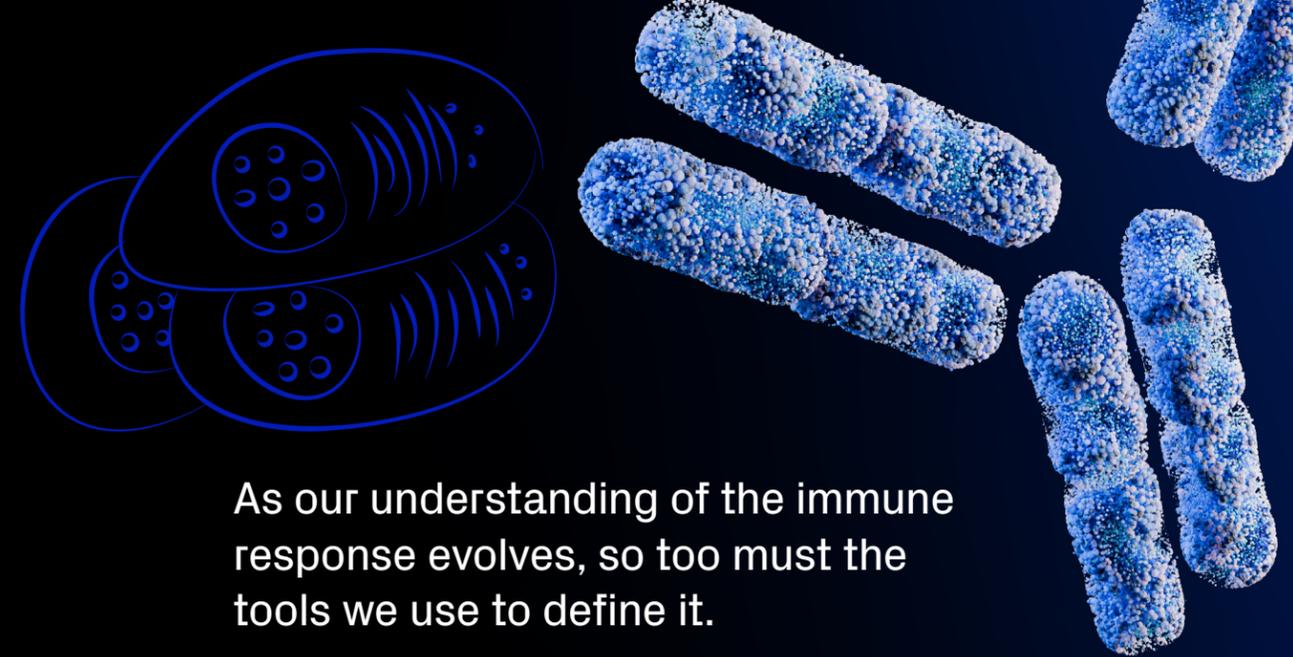
Bio-Techne backs this commitment with rigorous validation and a 100% guarantee that our **antibodies** will perform as expected in listed species and applications.

### Fueling Breakthroughs

Recent advances in assay development are meeting these challenges head-on. No-wash ELISAs with reduced step protocols are streamlining workflows, while **automation** is eliminating user error and compressing turnaround times.

Simultaneously, multiplexing enables scientists to conserve time and resources by measuring multiple analytes in a single run. This approach reduces the demand on limited sample volumes and removes the need to prioritize certain assays over others—preserving material for future studies.

This strategy is backed by the extensive expertise of R&D Systems, built over decades of developing and optimizing immunoassays. Rigorous testing ensures that multiplexed formats perform reliably across analytes, while fast, easy-to-run kits maintain the high standards researchers depend on.



BIO-TECHNE // ASSAY INSIDER

As our understanding of the immune response evolves, so too must the tools we use to define it.



### Redefining What's Possible

At Bio-Techne, we believe that redefining immunology starts with redefining how researchers interact with reagents—making them not only more precise and reproducible, but more intuitive, scalable, and aligned with the realities of modern research.

The immune system is constantly evolving—and so is our understanding of it. Redefining immunology means embracing innovative tools and techniques that can keep pace with its growing complexity.

### How Do You Define immunology?

Share your definition, and we'll send you our Immunology Activity Book — full of puzzles, coloring pages, and other fun activities to enjoy!



### Submit Your Definition

Scan the QR Code or Visit:

[info.bio-techne.com/defining-immunology](https://info.bio-techne.com/defining-immunology)

# Featured Resource

## Navigating the Path From Research to Clinical Testing

Transitioning a research-use immunoassay into clinical practice is a critical yet complex process that demands strategic planning and scientific rigor.

While promising results in the lab may demonstrate initial feasibility, clinical implementation introduces a new set of challenges—from regulatory demands to performance validation in real-world settings.

### Successfully navigating this path requires addressing four key factors:

#### 1. Validation & Standardization

Assay validation must ensure both accuracy and reproducibility across different laboratories and testing environments.

#### 2. Clinical Reliability

Confirming assay performance across diverse patient populations for the intended use in real-world settings is critical for clinical adoption.

#### 3. Regulatory Compliance

Complex approval processes and clinical standards (e.g., CLIA, IVD and IVDR) demands rigorous documentation, quality systems, and regulatory expertise.

#### 4. Market Access

Geographic disparities and decentralized reimbursement systems combined with lack of harmonized Health Technology Assessments can limit widespread adoption.



Start Your Journey by Contacting Us Today

Scan the QR Code or Visit:

[bio-techne.com/diagnostics/companion-diagnostics](https://bio-techne.com/diagnostics/companion-diagnostics)

## Deomonstrated Track Record of Success

**2,700+**

Assays for 570+ Targets

**50+**

Clinical Tests Built for Pharma

**15+**

CLIA Tests

**20+**

Year History of Pharma Partnerships

### Tap into our suite of clinical solutions aligned to your development goals:

#### • Proactively Address Barriers to Access

Minimize common roadblocks with Bio-Techne solutions designed to streamline bridging studies and reduce complexity. Our products are optimized to help ease the transition into clinical use and accelerate your development program.

#### • Enable Flexibility with Stage-Gated Deliverables

Stay nimble during development reviews with clearly defined, stage-gated milestones. Bio-Techne supports efficient decision-making, enabling faster pivots while aligning regulatory timelines for co-development of companion diagnostics and therapeutics.

#### • Strengthen Market Access with Decentralized Solutions

Expand your global reach with Bio-Techne's expertise in decentralized diagnostic models. We can help build a strong commercial presence, craft a reimbursement strategy, and improve patient access across varied healthcare markets.

### Bio-Techne: Your Trusted Companion on the Diagnostics Journey

Working with a single, experienced partner means your assay development, validation, and regulatory strategies are tailored to fit your application.

Whether you're moving from pre-clinical stages to clinical trials or toward a companion diagnostic, our approach is designed to shorten your development cycle and time to revenue.

CAP accredited CLIA laboratories - QMS certified to ISO 13485:2016, MDSAP and IVDR (EU 2017/746)

## Assays in Action

### Measuring Immune Response to Predict Changes in Autoimmune Disease Activity

Decades of research have laid the foundation for new discoveries in immune cell dysfunction. Autoimmune diseases like lupus illustrate both the challenges and progress in the field. While a cure remains elusive, researchers have significantly advanced diagnostic and treatment methods in recent years.

Dr. Melissa Munroe, M.D., Ph.D., a research associate at the Oklahoma Medical Research Foundation (OMRF), recently investigated how inflammatory and regulatory mediators influence lupus disease activity. Her team screened 50 biomarkers using a combination of R&D Systems Luminex® Assays and the Human BLYS Quantikine ELISAs—widely regarded as the gold standard in lupus research.

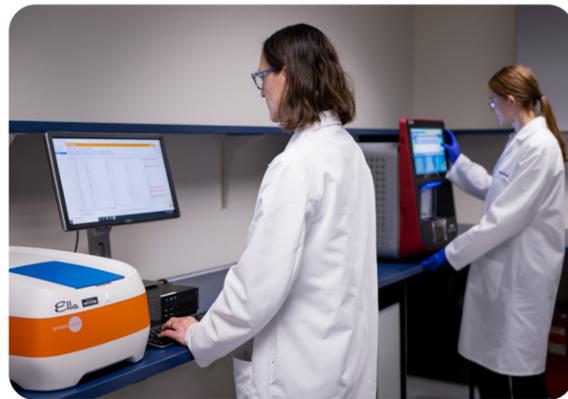


With Simple Plex assays on Ella, we can test hundreds of samples without the need for standard control preparations that introduce variability. Reducing manual steps leads to more reproducible results.

**Dr. Melissa Munroe, M.D., Ph.D.**  
Research Associate, Oklahoma Medical Research Foundation (OMRF)

### Identifying Early Biomarkers

These initial studies confirmed that immune mediator changes occur before disease flare-ups, identifying promising biomarkers for further analysis. "As we started seeing consistent data patterns across patient demographics, we realized we needed highly accurate and reproducible analytical techniques to support long-term comparisons," Munroe explained.



#### Read the Full Story

Scan the QR Code or Visit:

[bio-techne.com/melissa-munroe](https://bio-techne.com/melissa-munroe)

### Gaining Precision with Ella

At this stage, the team turned to Simple Plex assays on the Ella platform. Compared to traditional ELISAs, which require extensive hands-on time and can take a full day to complete, Ella's streamlined workflow provided a major advantage.

### Ensuring Data Consistency

Ella's speed, precision, and efficiency proved invaluable. Its ability to correlate data across multiple assay platforms ensured consistency at every stage, deepening insights into immune pathway dysregulation in lupus.

"Early on in our evaluation of Ella, we were able to see the data comparisons between the Quantikine ELISAs, the Luminex assays, and the Simple Plex assays," Munroe said. "The ability to maintain this high level of data consistency and reproducibility between assays was truly impressive—and a critical element that our research team took note of right away."

## Technical Corner

### Empowering Knowledge. Inspiring Discovery.

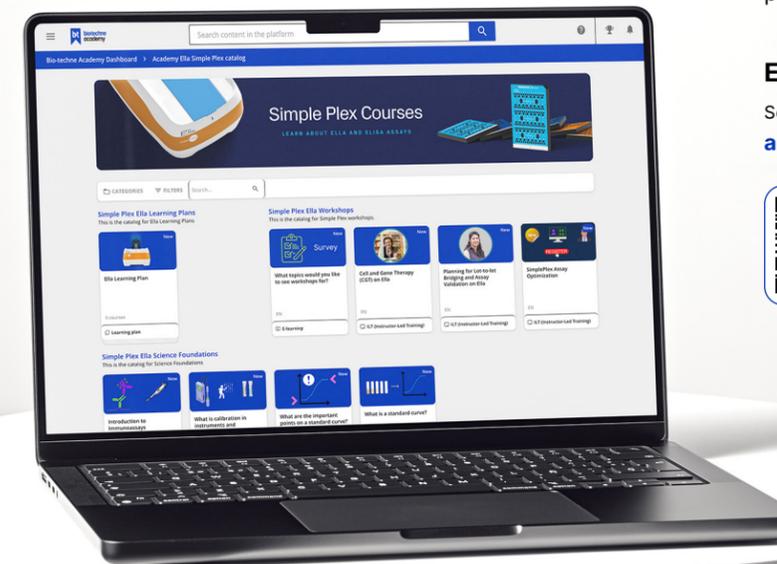
#### Fuel Your Growth—One Lesson at a Time

Whether you're brand new to our platforms or looking to squeeze every last data point from your assays, Bio Techne Academy has you covered.

This free, all digital portal brings together bite sized videos, expert led workshops, and deep dive courses so you can sharpen skills exactly when you need them.

#### Why join Bio-Techne Academy?

1. Learn from the pros. Field application scientists walk you through real world workflows, troubleshooting tips, and advanced optimization tricks.
2. Train on your terms. Stream courses 24/7, replay how to videos, or sign up for live interactive sessions, whatever fits your schedule.
3. Grow across platforms. From Simple Plex and Luminex to classic ELISAs, you'll master instrument setup, standard curve design, validation strategies, and more.



#### What you'll find inside

- Luminex and ELISA fundamentals
- Hands on Simple Plex workshops
- Short "show me how" videos
- Advanced assay design and data analysis
- Best practice checklists you can keep at the bench

#### Log in. Level up.

Getting started is easy—just visit the Academy, create your free account, and pick a course to start powering up your skills.

#### Explore Bio-Techne Academy

Scan the QR Code or Visit:

[academy.bio-techne.com/learn](https://academy.bio-techne.com/learn)



# New Products

## Simple Plex Discovery Assays

### Adding Speed to Biomarker Discovery

Speed and consistency can make all the difference in early-stage research and preclinical development. Simple Plex™ Discovery Assays provide the flexibility you need to explore new biomarkers and accelerate translational research while benefiting from increased reproducibility and automation.

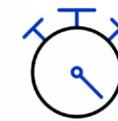
Built for the fully automated Ella™ System, these assays deliver high-quality data in just 90 minutes, no hands-on steps required. With 35+ validated targets and growing across human, mouse, and rat, you get the flexibility to explore new possibilities and the automation to scale with confidence.

### Performance That Checks Every Box



#### Broad Analyte Coverage ✓

Access an ever-expanding menu of targets across species and research areas.



#### Rapid Results ✓

Go from sample to data in just 90 minutes with Ella's fully automated workflow—no manual prep, no guesswork.



#### Reliable, Reproducible Data ✓

Every assay is verified across two lots and tested for precision, linearity, and recovery—so you can trust your results.



#### Rapid Custom Assay Development ✓

Need something unique? Our team can tailor an assay to your targets, with support from a dedicated project manager.

Get the flexibility, speed, and reliable data you need to move from discovery to insight—faster.



#### Learn More

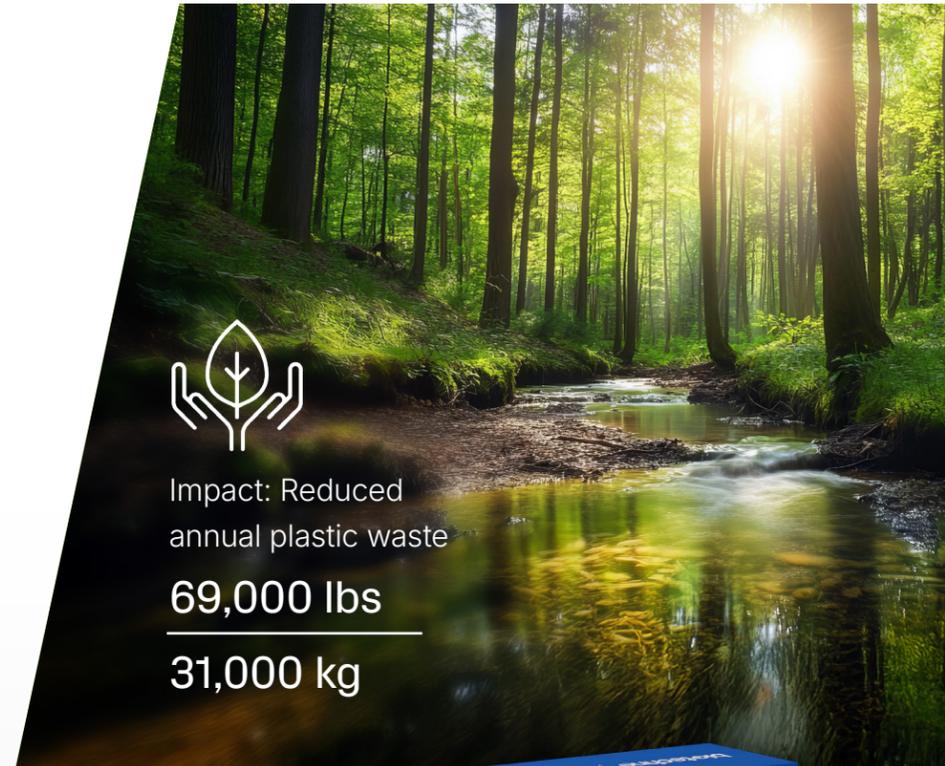
Scan the QR Code or Visit:  
[bio-techne.com/simple-plex-discovery](https://bio-techne.com/simple-plex-discovery)

# New Packaging

The new eco-friendly packaging is a meaningful step toward a more sustainable future in life science research.

In support of our commitment to providing more sustainable products, R&D Systems kits have transitioned to recyclable paperboard boxes as of March 2025.

This change replaces the previous plastic tub packaging and reflects our ongoing efforts to reduce the environmental impact across our product lines.



Impact: Reduced annual plastic waste  
**69,000 lbs**  
**31,000 kg**



## Latest Assay Releases

ELISA Kits		
	Simple Reader™ Compact ELISA Plate Reader	<a href="#">IA-051123</a>
	Human SP-D QuicKit ELISA	<a href="#">QK1920</a>
	Human CD25/IL-2 R alpha QuicKit ELISA	<a href="#">QK0223</a>
	Human Perforin Quantikine QuicKit ELISA	<a href="#">QK8011</a>
	Human MIP-3 beta QuicKit ELISA	<a href="#">QK0361</a>
	Human FAP Quantikine QuicKit ELISA	<a href="#">QK3715</a>
	Human TIGIT DuoSet ELISA	<a href="#">DY7898-05</a>
	Human Neurogranin DuoSet ELISA	<a href="#">DY79471-05</a>

Luminex Panels		
	Mouse IL-9 Discovery Assay	<a href="#">LXSAMSM</a>
	Mouse SOST Discovery Assay	<a href="#">LXSAMSM</a>
	Mouse CXCL9 Discovery Assay	<a href="#">LXSAMSM</a>
	Human Tumor Biomarker Luminex Performance Assay	<a href="#">FCSTM25</a>
	Non-Human Primate XL Cytokine Performance Panel User Mix	<a href="#">LNHPXL000</a>

Simple Plex Assays		
	Discovery Assays - 35+ New Analytes	<a href="#">Discovery Assays</a>
	Human alpha-Synuclein Cartridge	<a href="#">SPCKC-PS-011989</a>
	Human CXCL1 Cartridge	<a href="#">SPCKB-PS012007</a>
	Human Phospho-Tau (T217) ALZpath Cartridge	<a href="#">SPCKB-PS-011938</a>
	Human Neutrophil Elastase Cartridge	<a href="#">SPCKB-PS-011934</a>
	Non-Human Primate IFN-gamma Cartridge	<a href="#">SPCKB-NP-012059</a>

## We Want to Hear Your Story!

Have an amazing success story or unique experience with our products or services? Share it with us!

We're looking for inspiring stories to feature in our upcoming newsletter. Whether it's a breakthrough moment, a creative application, or a standout achievement, your story could be the one to motivate and inform others in our community.



### Submit Your Story Today

Scan the QR Code or Visit:

<https://forms.office.com/r/1MXsKgA8qN>



## Analyte Menus

### Full Simple Plex Menu

[bio-techne.com/SimplePlexMenu](https://bio-techne.com/SimplePlexMenu)

### Full ELISA Menu

[bio-techne.com/ELISA](https://bio-techne.com/ELISA)

### Full Luminex Menu

[bio-techne.com/luminex-assays](https://bio-techne.com/luminex-assays)

### Contact an Immunoassay Specialist

[bio-techne.com/support/sales-support](https://bio-techne.com/support/sales-support)

## Word Scramble

Test your knowledge and unscramble each of these mixed-up words, all related to immunoassays.

1. NOIKTCYE

\_\_\_\_\_

2. DSAITBONEI

\_\_\_\_\_

3. MIMNUE

\_\_\_\_\_

4. NIMLTNAOMINFIAU

\_\_\_\_\_

5. ITREIUNNLEK

\_\_\_\_\_

6. SSMSANOUAYIA

\_\_\_\_\_

7. LLCE

\_\_\_\_\_

8. REFNORTNIE

\_\_\_\_\_

9. SLSIEA

\_\_\_\_\_

10. RATBOMRIKA

\_\_\_\_\_

## Upcoming Events

Join us at upcoming events to explore the latest trends and innovations from Bio-Techne!

### JUNE

#### EACR

June 16-19, 2025  
[2025.eacr.org](https://2025.eacr.org)

Lisbon, Portugal

Booth #84

### JULY

#### AAIC

July 27-31, 2025  
[aaic.alz.org](https://aaic.alz.org)

Toronto, Canada

Booth #1545

### NOVEMBER

#### SfN

November 15-19, 2025  
[sfn.org/meetings/neuroscience-2025](https://sfn.org/meetings/neuroscience-2025)

San Diego, CA

Booth #1319

### DECEMBER

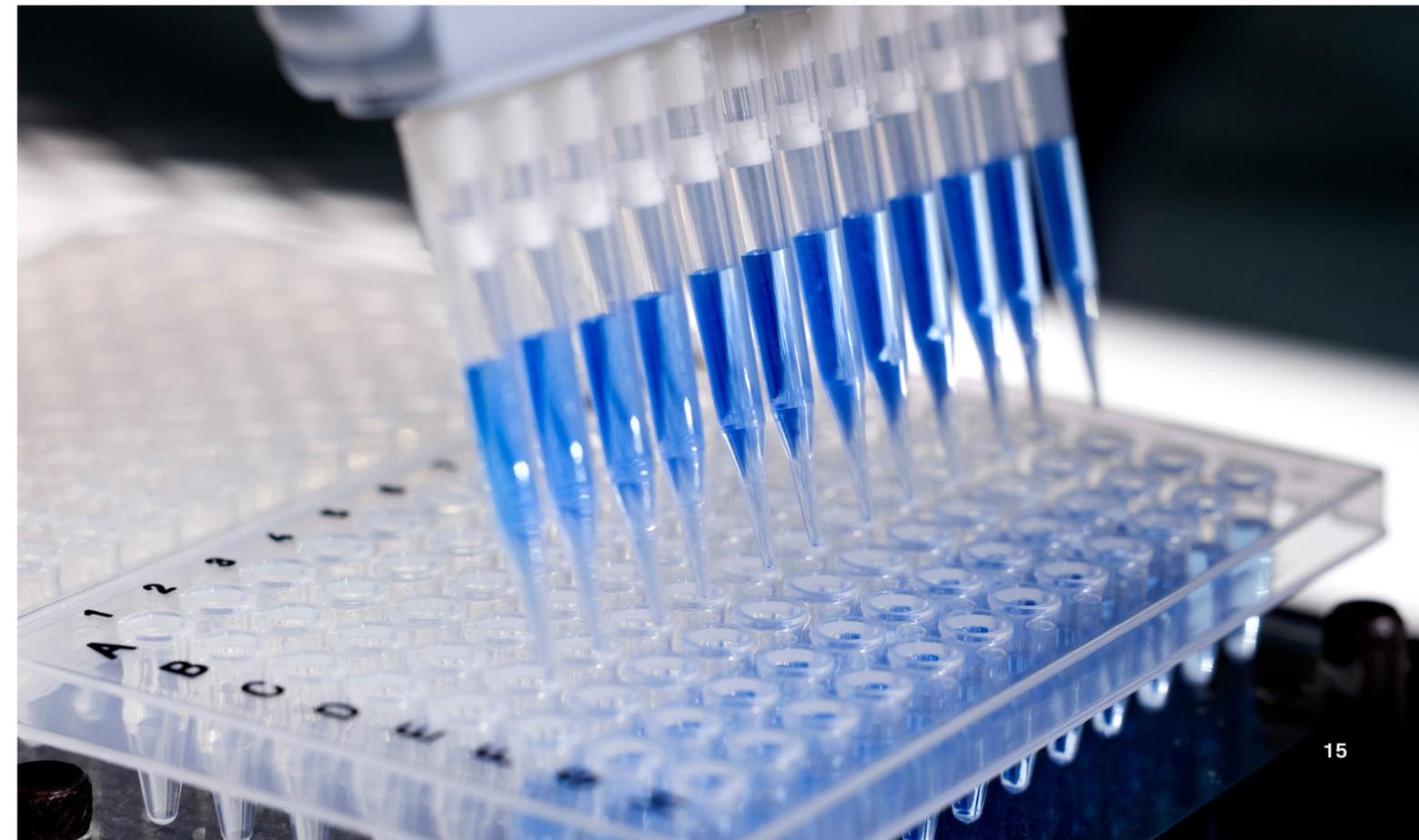
#### CTAD

December 1-4, 2025  
[ctad-alzheimer.com](https://ctad-alzheimer.com)

San Diego, CA

## Word Scramble Answers

1. Cytokine 2. Antibodies 3. Immune 4. Inflammation 5. Interleukin 6. Immunoassays 7. Cell 8. Interferon 9. ELISA 10. Biomarker





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Analytical Instruments, and Precision Diagnostics.

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