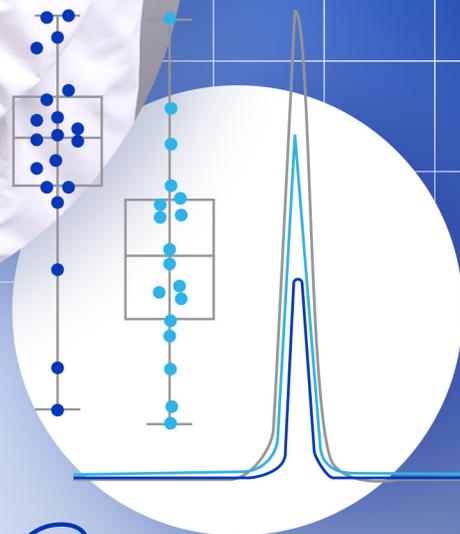
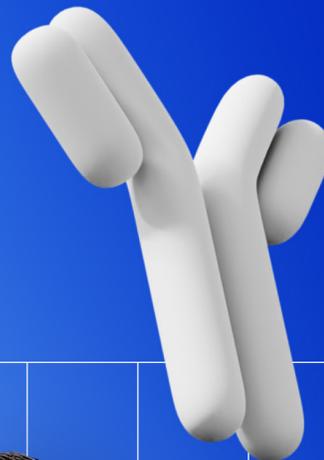


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Assay Insider

SPRING 2025 // VOL.1 ISSUE 1

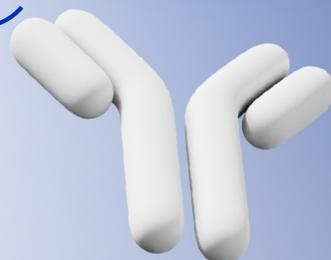


Discover
What's Possible

Are You Using These
TOP 4 Immunoassay
Product Solutions?

Transplant Care
Ella- Fast, Robust,
and Affordable

Technical Corner:
Getting Specific About
ELISA Controls



Assay Insider

Spring 2025 // Volume 1, Issue 1

Discover What's Possible

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Raising the Bar in Biomarker Detection

With exciting innovations enabling more accurate and reliable biomarker detection, we're moving toward a faster, clearer, and more user-friendly healthcare experience.

Advances in immunoassay capabilities are helping to raise the bar in biomarker detection speed, precision, and accuracy. Whether you are starting with a single analyte or multiplex assay,

you have a broad range of options from which to choose. For new or novel targets, you can also have R&D Systems experts build custom multiplex panels to meet your specific research needs.

Immunoassay Product Solutions:

- 01 **Quantikine ELISAs** The gold-standard
- 02 **Luminex Assays** Efficient, multiplex detection
- 03 **Simple Plex Assays on Ella** Your Next Generation ELISA
- 04 **The antibody** A key performance variable

Immunoassay Product Solutions

	ELISA	Luminex	Simple Plex
Summary	Researchers most trusted and cited ELISA	High plexing biomarker discovery	Sensitive 90 minute automated biomarker detection
Format	96 well plate	Bead	Cartridge
Suggested Application	96 well plate	Multiplex detection	Single or multiplex
Instrument	Plate reader	Luminex	Ella
Sample Volume	50-200 µL	25 µL	2.5-25 µL
Analytes per Sample	1 analyte	Up to 50 analytes	Up to 8 analytes
Menu	1,600+ analytes across 15 species	490+ analytes across 5 species	350+ analytes across 4 species

01 Quantikine ELISAs: The gold-standard

Quantikine® ELISAs are the most trusted on the market, not to mention the most referenced single-analyte immunoassays to date. Quantikine assays are also master calibrated for consistency.



Bottom line? The results you got yesterday, last month or even last year will be the same as today -- and the 96-well assay format works with any plate reader you have in the lab.

Choose from more than 450 ready-to-use kits or >1,600 analytes across 15 species to measure a wide range of molecules including cytokines, chemokines, growth factors, proteases and more.



02

Luminex Assays: Efficient, multiplex detection

Max out on answers for your most precious samples with our bead-based Luminex® Assays. Build a custom plex of up to 50 targets from over 490 available analytes — our Luminex Assay Customization Tool makes it simple.

Here's the added bonus: you'll have access to 77 unique human analytes, 11 unique mouse analytes and 1 unique rat analyte you can't get anywhere else.

Need a performance boost while you plex? Luminex High Performance assays go through rigorous QC testing to ensure you gain robust, accurate, and reproducible results.

When you need to make a switch, Luminex High Performance Assays are correlated with our gold-standard Quantikine ELISAs so you'll get similar results across platforms.

03

Simple Plex Assays on Ella: Your Next Generation ELISA

When you need: mega speed, max sensitivity, awesome reproducibility, why not leave the complexity of running immunoassays to us?

Automated Simple Plex™ Assays on our Ella™ System let you run ELISAs hands-free. Just load the cartridge and answers are ready in 90 minutes or less.

You'll also get sub pg/mL detection and reproducibility in the low single digits — even across multiple users and labs.

Analyze a single analyte on up to 72 samples or plex up to 8 analytes for 32 samples with zero cross-reactivity. And you'll only use 25 µL of sample at most. Because Simple Plex assays are correlated against our gold-standard Quantikine ELISAs, it's always easy to transfer to another platform whenever you need to.



Read on for a key performance variable: The Antibody →

04

Immunoassay Product Solutions

04

The antibody: A key performance variable

The unique binding characteristics of the antibody is the central factor in determining performance within a given immunoassay.

A good first step is making sure you select antibodies from a reputable supplier that has been demonstrated to be fit-for-purpose in the application and sample type of interest.

Validation protocols can help ensure that antibodies are producing appropriate results.

While there is no one-size-fits-all approach to antibody validation, there are some best practice measures that can help improve your outcomes.

[Learn More](https://www.biotechne.com/quality/antibodies-built-for-reproducibility)
[rndsystems.com/quality/antibodies-built-for-reproducibility](https://www.biotechne.com/quality/antibodies-built-for-reproducibility)



Antibody Validation Best Practices

- Always follow the manufacturer's recommendations.
- Use a relevant model system to test the antibody.
- Employ proper controls, both for the target and for the reagent.
- Compare your results to other similar antibodies if available.
- If something appears amiss, contact the supplier and share your data.



A Closer Look at ELISA Controls

Including both positive and negative controls in your ELISA is essential for ensuring your assay runs correctly and delivers accurate results. Read on for a breakdown of how these controls work and why they're so important:

Positive ELISA Controls

Positive controls, such as recombinant or natural samples known to be detectable, confirm your assay is working as intended. They're crucial for verifying that a negative sample is truly negative. The standard curve in your assay serves as one form of positive control, allowing you to compare your results to the provided data in the product insert.

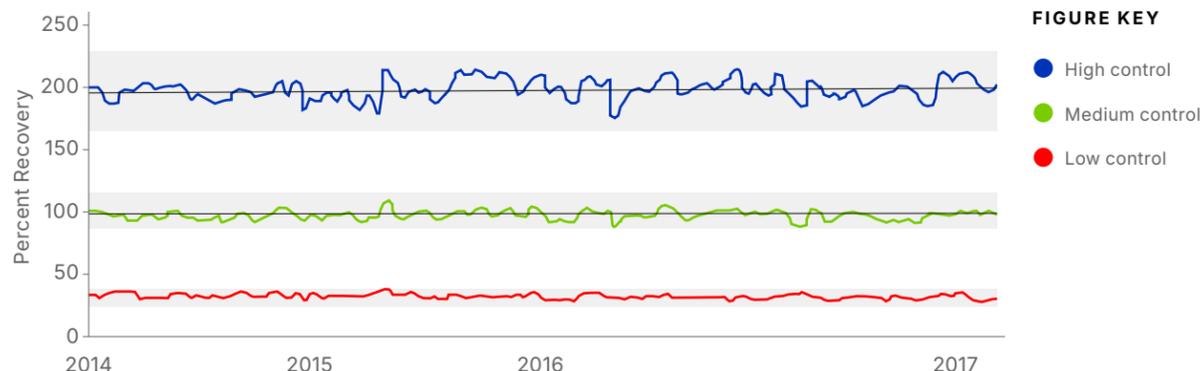
For Quantikine® ELISAs, R&D Systems offers specific controls:

- Human Quantikine Kits
Lyophilized tri-level controls with validated expected ranges from our Quality Control team.
- Mouse/Rat Quantikine Kits
Come with a built-in control in the kit.

These controls are especially helpful when running multiple plates or when multiple users are involved, ensuring results stay within expected ranges.



FIGURE // 01
 Quantitation of Human IL-6 Controls Over Time



High, medium, and low controls are assayed with every manufactured lot of the Human IL-6 Quantikine® ELISA Kit (Catalog #D6050B). Controls for the Human IL-6 Quantikine® ELISA Kit fall within acceptable ranges (gray bars) and remain consistent from lot to lot.



Hot Off the Press

Transforming Transplant Care with Ella

Kidney transplant rejection affects 10–15% of patients within the first year, with traditional monitoring relying on invasive, costly biopsies.

Emerging guidelines from the European Society of Organ Transplantation recommend urine-based chemokines, CXCL9 and CXCL10, as non-invasive biomarkers for subclinical rejection.

This latest publication evaluates Simple Plex Assays on Ella against conventional ELISA methods, demonstrating its clinical utility in monitoring subclinical kidney rejection.

The study highlights Ella's ability to deliver precise, rapid biomarker quantification at a reduced cost, making it a practical, accessible solution for clinical settings.

Explore how Ella is transforming transplant care with robust data, affordability, and speed:

[Download the paper](https://www.ncbi.nlm.nih.gov/articles/PMC11369285)
[pmc.ncbi.nlm.nih.gov/articles/PMC11369285](https://www.ncbi.nlm.nih.gov/articles/PMC11369285)

[Check out the full Simple Plex Assay menu](https://www.biotechne.com/SimplePlexMenu)
[bio-techne.com/SimplePlexMenu](https://www.biotechne.com/SimplePlexMenu)

ELISA Spike Controls

When using complex sample matrices, it is also important to make sure that there is nothing present in the matrix that interferes in the assay. It is recommended to spike in recombinant or natural protein into your matrix and verify that the amount you spike in is what you read out. Our Quantikine ELISAs are already validated for many complex sample types, so refer to the kit insert for details.

Negative ELISA Controls

Negative controls help to verify that you are not obtaining any false positive results or non-specific binding. Use a sample that you know will not contain the protein you are measuring. If you are quantitating a cell culture supernatant, a good negative control would be to test your cell culture media.

Featured Resource

Enhancing Tumor Biomarker Research

The newly released Human Tumor Biomarker Performance Panel, a 28-plex Luminex assay from R&D Systems, a Bio-Techne brand, brings unprecedented precision to cancer biomarker detection.

Validated for use with plasma samples collected in Streck® Cell-Free DNA BCT® and Protein Plus BCT™ tubes, this advanced assay provides robust multiplexing capabilities while maintaining high sensitivity and reproducibility.

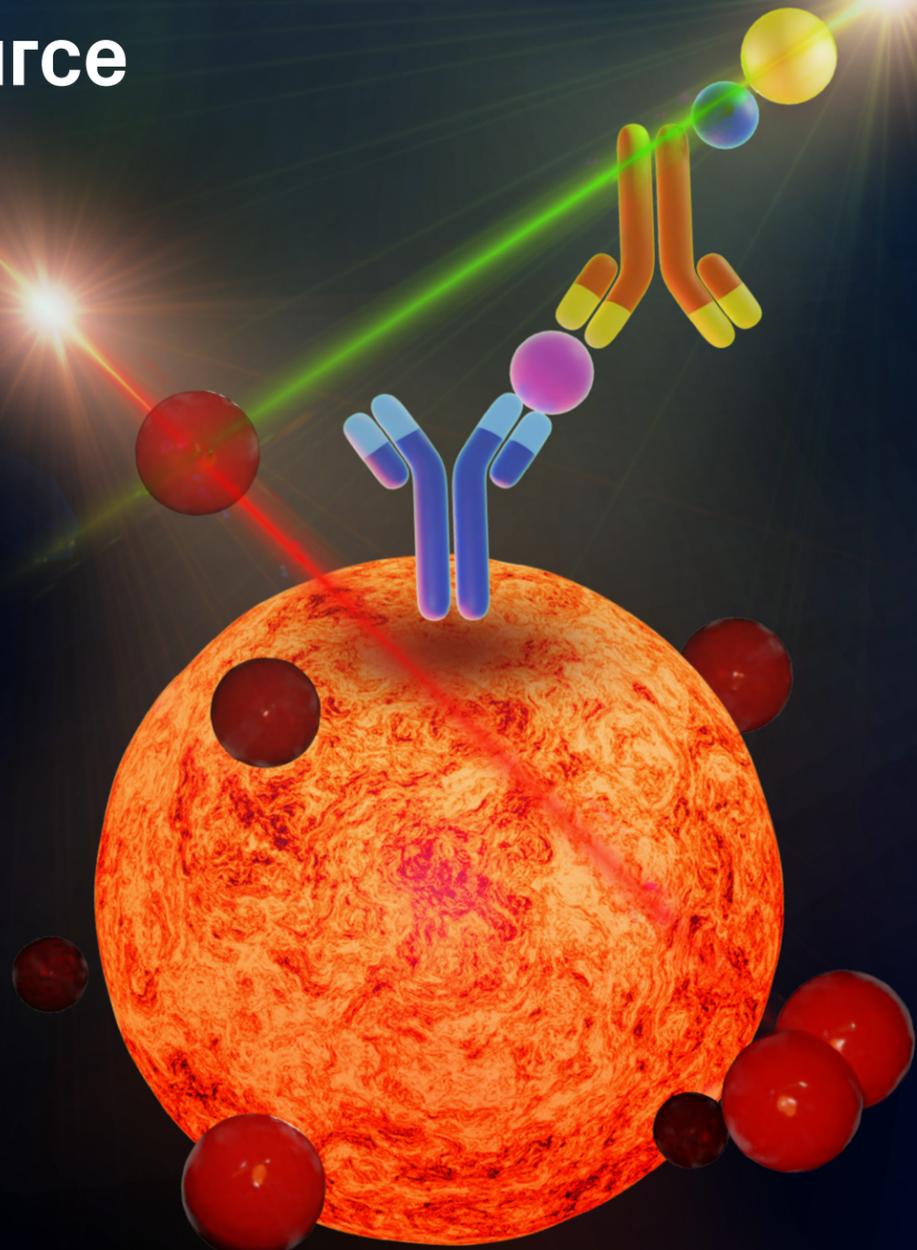
Together, these tools support comprehensive profiling of biomarkers associated with multiple cancer types, aiding in early detection research and diagnostic development.



Read the full application note

Scan the QR Code or Visit:

bio-techne.com/resources/literature/luminex-multiplexed-detection-of-tumor-biomarkers



In a study comparing the stability of tumor biomarkers across four plasma collection tube types—EDTA, heparin, Streck Cell-Free DNA, and Streck Protein Plus—the Streck tubes outperformed traditional options, maintaining stability for key analytes over multiple days at room temperature.

Notably, IL-8 and MIF levels remained consistent in Streck tubes, unlike EDTA and heparin samples, which exhibited variability over time.

The Protein Plus tubes excelled in stabilizing analytes prone to degradation from platelet activation, while the Cell-Free DNA tubes showed superior stability for markers like ENO-2 and MIF.

These findings emphasize the importance of pairing the right sample collection and handling methods with advanced assay technology.

By preserving analyte integrity and enabling decentralized sample collection without compromising results, Streck plasma tubes and the Luminex assay panel offer a powerful, scalable solution for large multicancer biomarker studies.

Explore how this innovative combination can transform your research by delivering reliable, reproducible data across diverse conditions.

Assays in Action



Simplifying Large-Scale Iron Studies with Ella

Dr. Lakhal-Littleton
Associate Professor,
University of Oxford

Iron deficiency remains the world's most common nutritional disorder, with iron regulation intricately managed by the liver-derived peptide hepcidin. At the University of Oxford, Associate Professor Samira Lakhal-Littleton is leading research into how disruptions in tissue-driven iron control contribute to chronic diseases. Her work has uncovered novel roles for hepcidin and ferroportin in managing intracellular iron levels, challenging long-standing beliefs about serum iron's dominance in regulating tissue iron.

In a recent study on iron status following myocardial infarction, Lakhal-Littleton sought to understand how these changes impact cardiac recovery. The challenge of processing large sample volumes efficiently was addressed using Simple Plex assays on the Ella platform. With its streamlined setup, rapid results, and minimal sample volume requirements, Ella enabled the team to gather reliable data quickly and effectively.

Ella's superior reproducibility and small sample volume needs helped overcome variability issues common with traditional ELISA kits. According to Lakhal-Littleton, the platform's consistency across assay lots has been critical in analyzing large patient cohorts. This capability is paving the way for deeper insights into the connections between hepcidin, inflammation, and chronic disease.

Lakhal-Littleton's findings highlight how advanced tools like Ella are driving progress in understanding iron-related disorders, making large-scale studies more efficient and impactful.



Read more

Scan the QR Code or Visit:

bio-techne.com/resources/testimonials/advancing-understanding-iron-disorders-ella

New Products

We continue to release new products to enhance our menu and ensure you have the tools needed to propel your research.

Starting with a single analyte?
Looking for multiplexing capabilities?
Need a custom solution?

Whatever your needs, you can trust our immunoassays to deliver precise, accurate results the first time and every time.

Read on to learn about new releases including instruments, assays, kits, and panels.

The SimpleReader ELISA Plate Reader

Simplifying Your Workflow

Give every team member the power of precision with the Simple Reader—a compact, reliable microplate reader designed for decentralized workflows.

Featuring 96 individual detection units, this innovative device delivers accurate results while being easy to use and maintain.

The Simple Reader is a cost-effective alternative to bulky, expensive plate readers. With its plug-and-play functionality, all you need is a laptop to transform any space into your lab—perfect for fieldwork or tight workspaces.



"Switching to the Simple Reader has simplified and streamlined data acquisition compared to our previous system. This reader is also very compact, takes up minimal space, and is easily moved between bench spaces depending on user need. It is simple to connect to either a desktop or a laptop computer for greater accessibility and mobility."

Angela Mullins
Graduate Student
University of North Dakota,
Department of Biomedical Sciences



Get started with Simple Reader

Scan the QR Code or Visit:

bio-techne.com/p/elisa-kits/simple-reader_ia-051123

Features:

Fast Read Time

Get your plate read in under 5 seconds for quicker data analysis

96 Detection Units

Ensures robust and reliable results every time.

Four LED Light Sources

Supports multiple wavelengths 450, 490, 540, and 595 nm

Compact Design

Portable and ready to go wherever your lab takes you

New Products

Latest Assay Releases

We continue to release new products to enhance our menu and ensure you have the tools needed to propel your research.

Highlights

Human Tumor Biomarker Luminex Panel

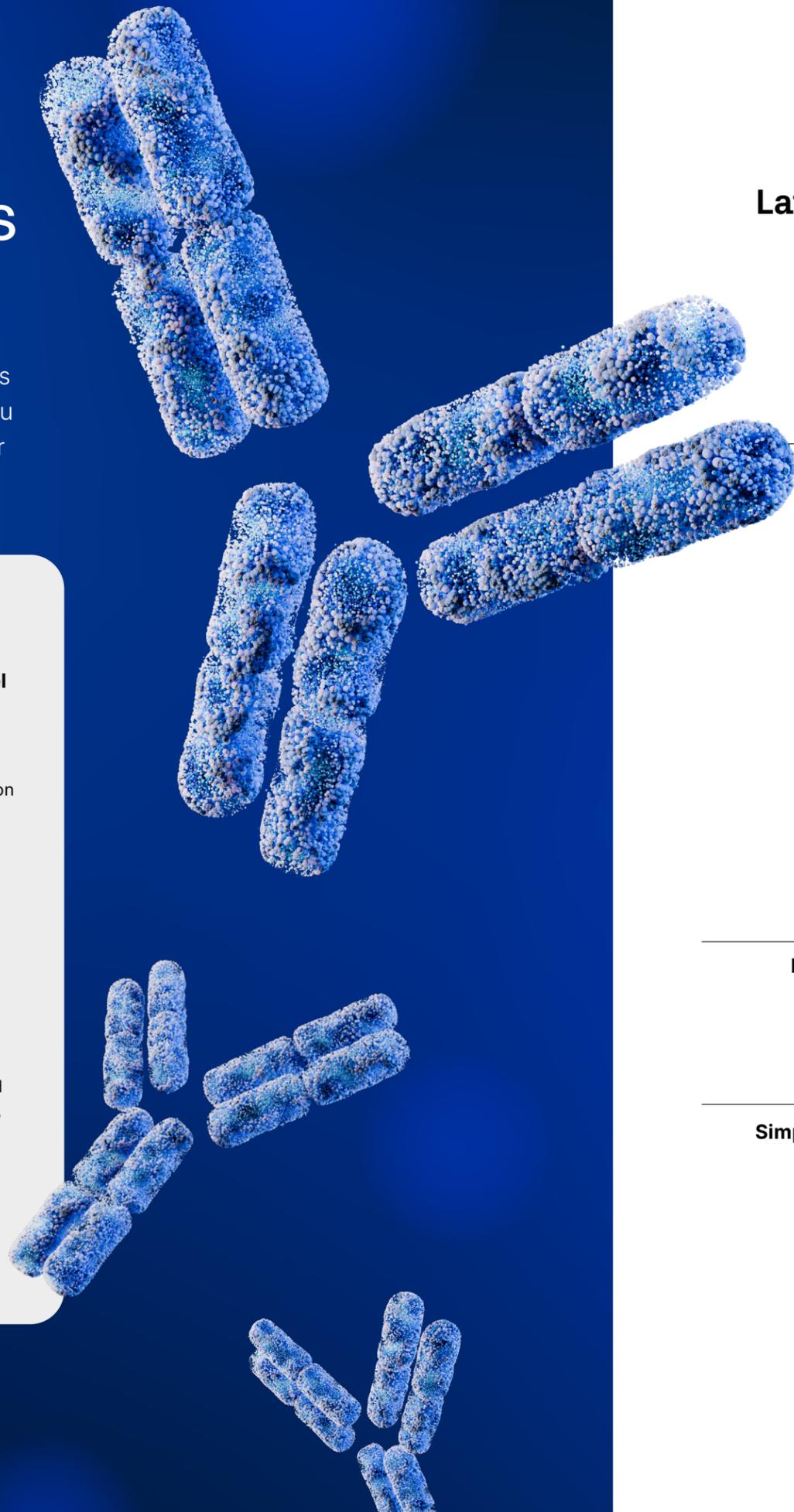
Our newest Luminex panel is the first Luminex panel to be validated with Streck plasma. The highly sensitive panel is customizable with 28 cancer biomarkers. Mix and match customization allows maximum flexibility while providing sensitive results for early cancer detection research.

[Learn More](#)

Simple Plex Phospho Tau 217

Introducing a powerful new assay for detecting pTau 217 in cerebrospinal fluid (CSF), plasma, and serum. Leveraging the highly characterized ALZpath pTau 217 antibody on the Ella platform, this assay delivers precise, reliable results in just 90 minutes. This breakthrough empowers researchers and clinicians to make informed decisions faster and more efficiently.

[Learn More](#)



Latest Assay Releases

ELISA Kits	Human Transferrin Receptor/ TfR Quantikine ELISA	DTFRU0
	Human Perforin QuickKit ELISA	QK8011
	Human MIP-3 beta QuickKit ELISA	QK0361
	Human FAP QuickKit ELISA	QK3715
DuoSets	Human TIGIT DuoSet	DY7898-05
	Mouse Angiopoietin-like 4 DuoSet	DY4880-05
	Human IL-11R alpha DuoSet	DY1977-05
	Human HSP90 beta DuoSet	DY32861-05
	Human Neurogranin DuoSet	DY79471-05
	Human CD45 DuoSet	DY1430-05
	Mouse Klotho DuoSet	DY1819-05
	Canine IL-18 DuoSet	DY29241-05
	Human Kallikrein 7 DuoSet	DY2624-05
	Human Cardiac Myoglobin DuoSet	DY125-05
	Human OSMR beta DuoSet	DY4389-05
Luminex Panels	Human Tumor Biomarker Luminex Performance Assay	FCSTM25
	Non-Human Primate XL Cytokine Performance Panel User Mix	LNHPXL000
	Human CXCL12/SDF-1 alpha on Discovery Assays	LXSAHM
Simple Plex Assays	Non-Human Primate Species	Over 40 Analytes
	Human Total Tau Cartridge	SPCKC-PS-009562
	Human UCH-L1 Cartridge	SPCKB-PS-010947
	Human CD40 Ligand Cartridge	SPCKB-PS-011041
	Human alpha-Synuclein Cartridge	SPCKC-PS-011989
	Mouse/Rat beta-Synuclein Cartridge	SPCKB-MP-010280
	Mouse/Rat Fit-3 Ligand Cartridge	SPCKB-MP-010216



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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.

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



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

Full ELISA Menu
bio-techne.com/ELISA

Full Luminex Menu
bio-techne.com/luminex-assays

Contact an Immunoassay Specialist
bio-techne.com/services/custom-elisa-services#droplink-form

Word Search

Find the hidden words. They can be forward, backwards, across, down, or diagonal.

O	D	O	H	L	I	W	S	R	Y	B	M	D	N	O
H	Z	E	K	X	P	P	E	M	A	D	J	E	O	L
S	W	T	T	U	Y	K	A	Q	S	O	V	L	I	R
Y	N	V	S	E	R	D	Q	I	S	H	J	I	T	K
G	D	C	U	A	C	M	P	X	A	Y	G	S	A	I
M	F	O	M	C	Y	T	O	K	I	N	E	A	M	W
E	F	O	B	N	K	G	I	L	U	T	S	M	M	K
J	I	H	U	I	N	V	F	O	A	Z	U	R	A	N
B	Z	D	C	U	T	N	R	L	N	N	D	N	L	N
L	N	C	D	O	I	N	P	L	O	R	E	H	F	P
C	H	M	F	F	V	O	A	A	K	Z	I	A	N	S
H	E	Q	K	K	R	E	S	Y	H	A	N	S	I	C
T	W	W	W	C	D	S	K	Y	F	Q	I	T	N	Y
J	J	J	I	L	A	M	U	L	T	I	P	L	E	X
G	Q	M	B	Y	Q	T	F	U	I	V	Y	M	R	C

FIND:

- ANTIBODY
- ASSAY
- BIOMARKER
- CYTOKINE
- DETECTION
- ELISA
- IMMUNOASSAY
- INFLAMMATION
- MICROPLATE
- MULTIPLEX

Upcoming Events

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

MARCH

Advanced Therapies
 March 18-19, 2025 London, UK Booth #30
terrapinn.com/congress/advanced-therapies

Forum Labo 2025
 March 25-27, 2025 Paris, France Booth #J050
forumlabo.com/paris/en-gb.html

APRIL

AD/PD
 April 1-5th, 2025 Vienna, Austria Booth #41
adpd.kenes.com

Ella User Meeting
 April 15th San Francisco, CA
info.bio-techne.com/ella-user-meetings

AACR
 April 25-30th 2025 Chicago IL Booth #3049
aacr.org/meeting/aacr-annual-meeting-2025

MAY

AAI
 May 3-7th 2025 Honolulu HI Booth #422
aai.org/Meetings/AAI-Annual-Meeting

22nd CIMT Annual Meeting
 May 12-14 2025 Mainz, Germany
cimt.eu/meetings

ASGCT
 May 13-17, 2025 New Orleans, LA Booth #1537
annualmeeting.asgct.org

Word Search Answers

O	D	O	H	L	I	W	S	R	Y	B	M	D	N	O
H	Z	E	K	X	P	P	E	M	A	D	J	E	O	L
S	W	T	T	U	Y	K	A	Q	S	O	V	L	I	R
Y	N	V	S	E	R	D	Q	I	S	H	J	I	T	K
G	D	C	U	A	C	M	P	X	A	Y	G	S	A	I
M	F	O	M	C	Y	T	O	K	I	N	E	A	M	W
E	F	O	B	N	K	G	I	L	U	T	S	M	M	K
J	I	H	U	I	N	V	F	O	A	Z	U	R	A	N
B	Z	D	C	U	T	N	R	L	N	N	D	N	L	N
L	N	C	D	O	I	N	P	L	O	R	E	H	F	P
C	H	M	F	F	V	O	A	A	K	Z	I	A	N	S
H	E	Q	K	K	R	E	S	Y	H	A	N	S	I	C
T	W	W	W	C	D	S	K	Y	F	Q	I	T	N	Y
J	J	J	I	L	A	M	U	L	T	I	P	L	E	X
G	Q	M	B	Y	Q	T	F	U	I	V	Y	M	R	C



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