

Immunoassays

# Ella

Precision Multiplexing Made Simple



biotechne® | R&D SYSTEMS



# Introducing Ella

## A benchtop automated ELISA platform for consistent biomarker detection

Immunoassays come with many challenges. Even after hours spent in the lab performing manual reagent additions and analyzing data, results are often inconsistent and unreliable.

The automated Ella™ platform brings a higher level of precision and minimal training, increasing your productivity in the lab.

Utilizing a unique microfluidic cartridge design, the Ella platform's Simple Plex™ assays are fast, hands-free, reproducible, and available for plexing up to 8 analytes.

**Ella online** | [bio-techne.com/instruments/simple-plex](https://bio-techne.com/instruments/simple-plex)

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- ✓ Automation minimizes user error
- ✓ Large dynamic range
- ✓ Precise, reproducible results
- ✓ Easily transfer to another site
- ✓ Factory-generated standard curves
- ✓ Fits on your benchtop

# How the Ella platform works



## Automated instrument

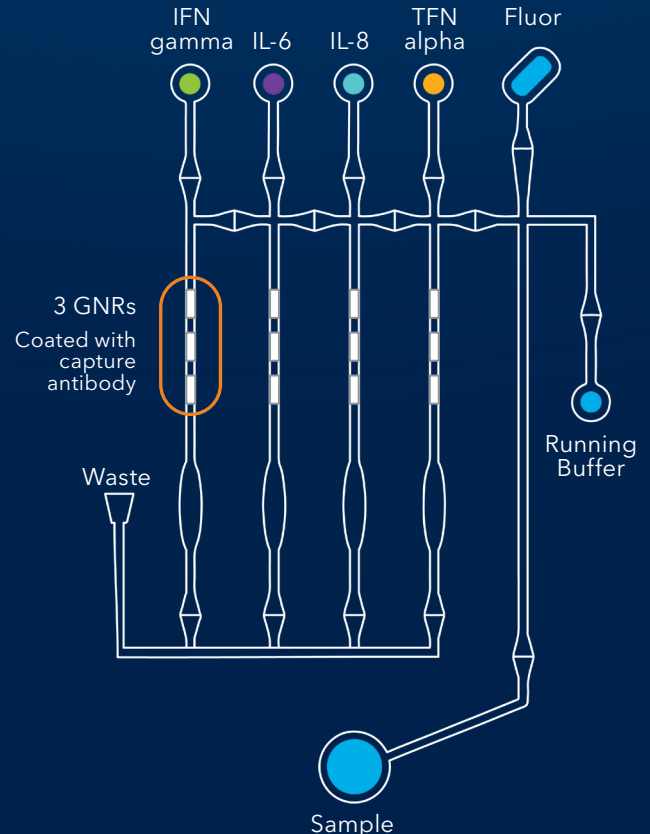
Once the immunoassay run is initiated, Ella proceeds from start to finish without the need for manual intervention. Ella pneumatically interfaces with the Simple Plex assay cartridge to perform all reagent additions, wash steps, and incubations under precisely controlled conditions.

## Cartridge using microfluidic technology

Ella performs immunoassays inside a consumable microfluidic Simple Plex assay cartridge. Similar to a pre-kitted ELISA, all reagents including matched antibody pairs have been validated. But with Ella, the reagents are pre-loaded onto a cartridge for ease of use.

No standard curve preparation is needed. Running an assay simply requires adding diluted samples and wash buffer to the cartridge before placing the cartridge inside the Ella instrument.

Inside each fluidic channel are multiple glass nanoreactors (GNRs) coated with capture antibody, providing built-in replicate measurements for each analyte. With preloaded factory-calibrated standard curves, fully analyzed data is available in less than 90 minutes.



# Less work, more flow.

## Hands-off, automated immunoassays

In the race to discovery, there's no time to lose. The Ella platform eliminates the tedious setup and lengthy incubations typical of traditional plate-based immunoassays. The automated microfluidic cartridge design minimizes user error while ensuring highly precise and reproducible results across multiple users and sites.

## Multiplex without cross-reactivity

Traditional multiplex assays can be prone to cross-reactivity and interference resulting in sub-par or erroneous data. The Ella platform eliminates these issues by separating targets into four parallel channels for a maximum of only two assays being carried out in a common environment. Create your own multiplex panel of up to 8 analytes from a validated list of 250+ targets with flexible cartridge options.

### Explore solutions

[bio-techne.com/reagents/simple-plex-immunoassays](http://bio-techne.com/reagents/simple-plex-immunoassays)



**1**  
Scan barcode



**2**  
Add sample  
Add wash buffer

**15 min**



**3**  
Place cartridge  
in Ella and  
process run

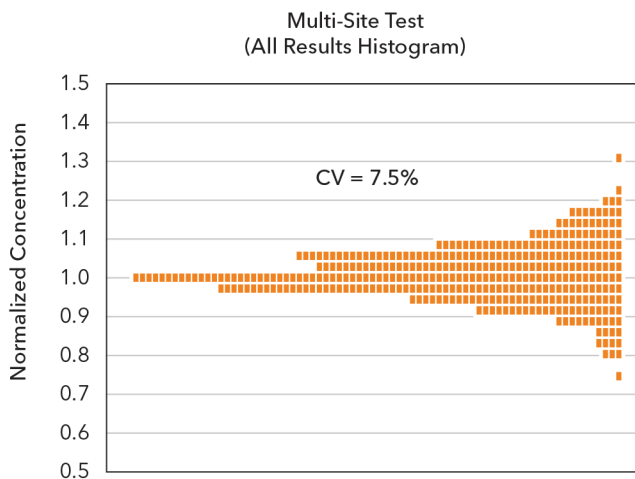
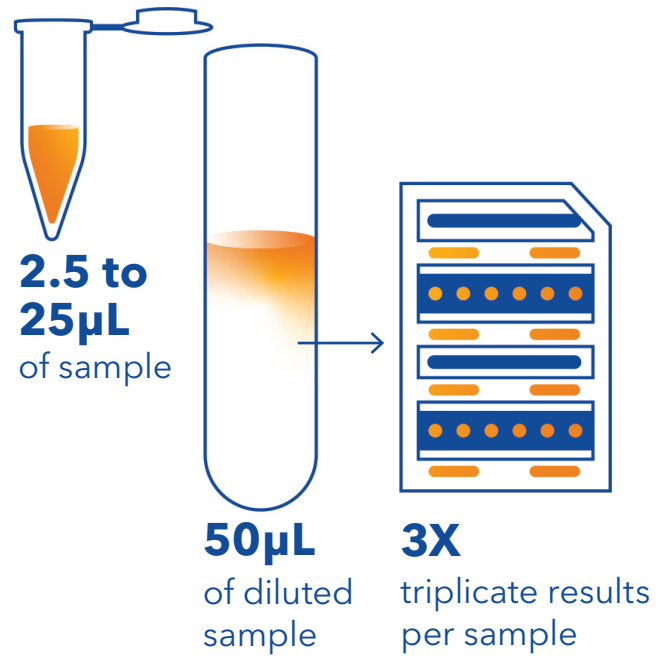
**75 min**



**4**  
Review fully  
analyzed results

## More data from smaller samples

Whatever your area of research, getting the most data possible from your samples is critical. Simple Plex assay cartridges with up to 8 multiplexed assays are available, offering replicate results all from just 25  $\mu\text{L}$  of sample. Each sample loaded onto the cartridge is assayed in replicate GNRs automatically, eliminating the need to load technical replicates on the cartridge.



Testing across 3 sites, 11 users and 9 Ella instruments. 4 different assays were processed for CCL2, IL-6, TNF alpha and VEGF-A. Eight unique serum samples with 2 controls for a total of 704.

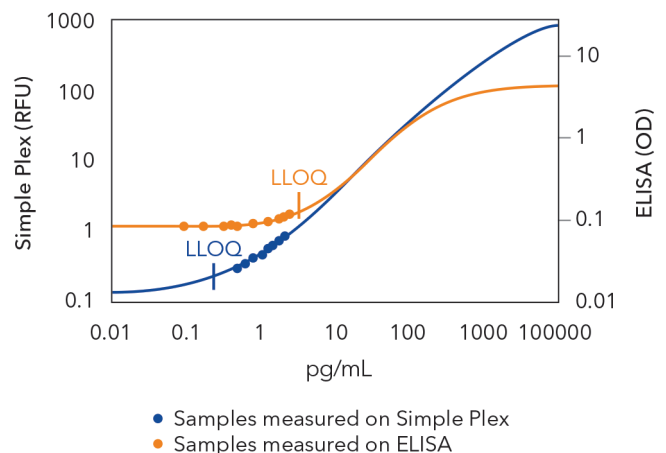
## Superior reproducibility

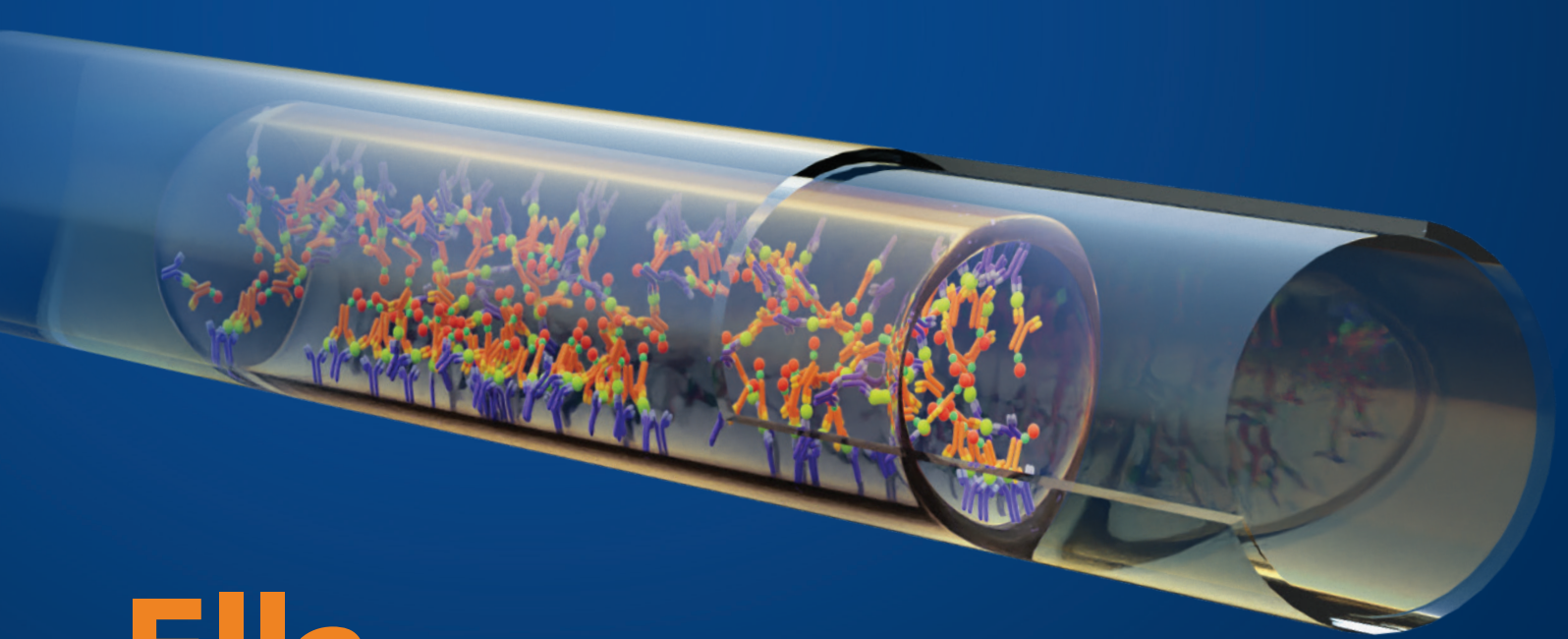
Achieving immunoassay reproducibility with traditional ELISAs and multiplexing platforms can be challenging due to the multiple manual steps and increased opportunity for error. The Ella platform's hands-free automation eliminates these sources of variability to deliver exceptional precision and accuracy.

When the time comes to transfer or expand your study to other labs or a contract research organization, the benchtop automation makes it easy. The simple load-and-go workflow, built in standard curves, and precisely controlled automation help ensure consistent results no matter the lab, instrument, or operator.

## High sensitivity with sub-picogram level detection

Ella assays use a fluorescent detection system to deliver excellent low-end sensitivity to detect low expressing proteins and provide a broad dynamic range. This allows samples containing high and low abundance of analyte to be assayed at a common dilution, reducing the need to rerun samples or perform dilution series.





# Ella Cartridges

## Therapeutic areas

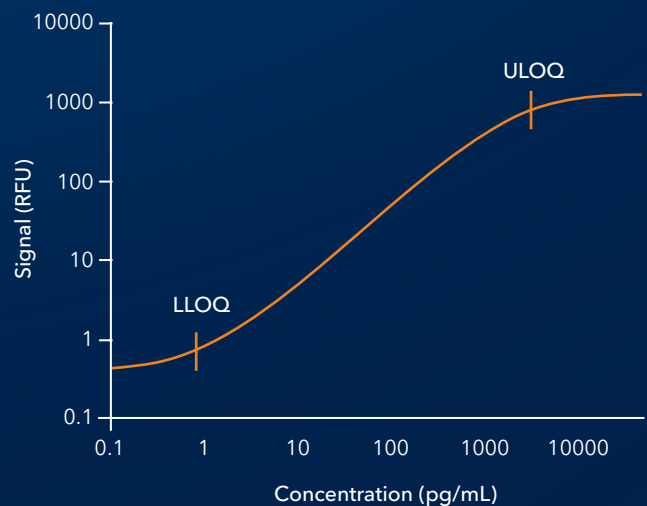
Ella assay menu of 250+ validated targets span application areas for pre-clinical, clinical research, trials, monitoring to bio-therapeutic manufacturing.

- Cell and Gene Therapy
- Bioprocessing
- Neuroscience
- Cancer
- Immunology

## Powered by R&D Systems

Developed by R&D Systems, manufacturer of the gold standard Quantikine™ family of ELISAs, Simple Plex assays feature top quality antibody and protein reagents for consistent and accurate biomarker detection.

Whether you're simply looking for the highest quality immunoassay solution, or are a traditional ELISA user looking to reap the benefits of automation, the Ella platform delivers data you can trust from a brand you know.



Scan barcode on cartridge to access the calibration curve associated with your assay.

# Flexible Cartridge Format Options

## Multiplex

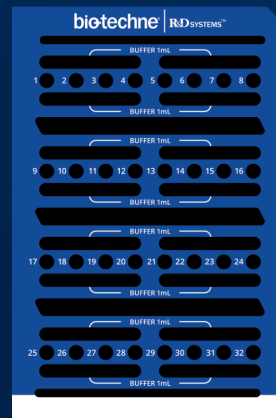


Up to 4 assays in separate channels

Up to 32 samples  
4 Assay  
3 Replicates

16x4

32x4

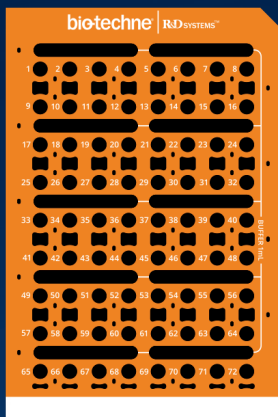


Up to 8 assays for higher plexing

Up to 32 samples  
8 Assay  
2 Replicates

32x8

## Single Plex

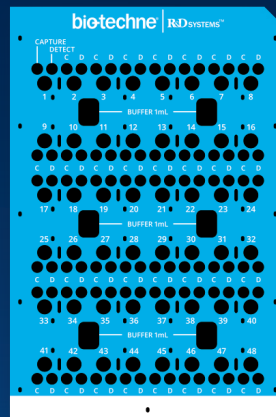


Fast + scalable

Up to 72 samples  
1 Assay  
3 Replicates

72x1

## Design Your Own



Use your own reagents

Up to 48 samples  
1 Assay  
3 Replicates

48xDIG

# Where Science Intersects Innovation™

**Bio-Techne®** | R&D Systems™ Novus Biologicals™ Tocris Bioscience™ ProteinSimple™ ACD™ ExosomeDx™ Asuragen®

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