

Meet Ella

*Automated Immunoassay
System for Precise and
Reproducible Results*



SENSITIVE
SAMPLE DETECTION



AUTOMATED
WORKFLOW SIMPLICITY



EFFICIENT
MULTI ANALYTE



PRECISE
DATA CONFIDENCE



Simple Plex Technology on Ella Reproducible Results You Can Trust

Simple Plex™ Technology combines Ella™, Automated Immunoassay System, with ready-to-run Simple Plex™ Assays for unmatched precision and consistency. Together, they deliver fast, hands-free results you can rely on—with the ability to measure up to eight analytes in less than 90 minutes.

Consistent Results Maximum Benefits

- ✓ Automation minimizes user error
- ✓ Large dynamic range
- ✓ Lot-to-lot consistency
- ✓ Precise, reproducible results
- ✓ Easily transfer across multiple users and sites
- ✓ Built-in standard curves
- ✓ Data you can trust





Meet Ella

Scan the QR Code or Visit:
bio-techne.com/ella

Move Faster, Accomplish More

Hands-free Automation

The Ella System eliminates the tedious setup and lengthy incubations typical of traditional plate-based immunoassays.

The Simple Plex microfluidic cartridge design minimizes user error while ensuring highly precise and reproducible results across multiple users and sites.

Superior Reproducibility

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 across multiple users and sites.



SCAN

Scan cartridge
QR code



ADD

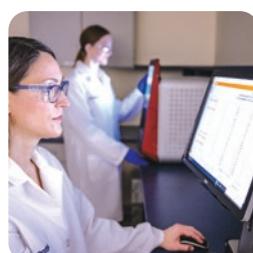
Sample
Wash Buffer

15 min
75 min



PROCESS

Place cartridge in Ella
and process run



REVIEW

Review your fully
analyzed results

Flexible Cartridge Options

Simple Plex Cartridges are available in a range of formats to match your assay design needs.



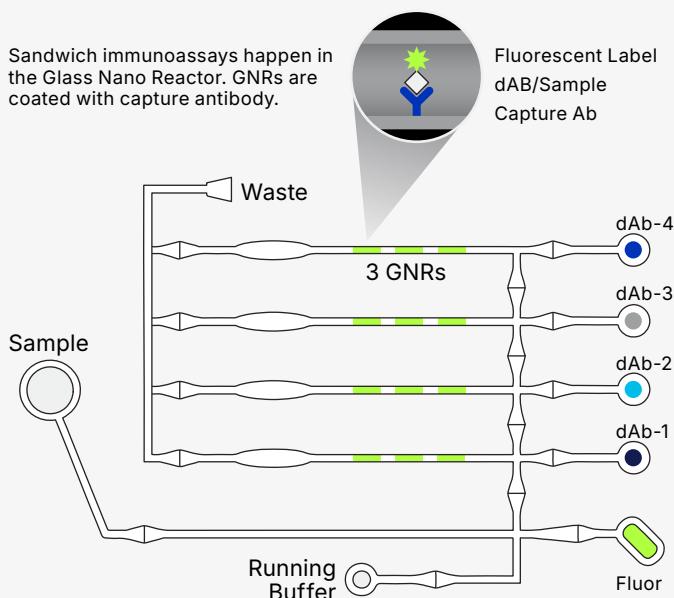
Scaling With Ease

Multianalyte cartridges let you measure 2, 3, or 4 target analytes in parallel, with each analyte quantified in triplicate for robust, reproducible data. Choose from 16- or 32-sample configurations to scale throughput with ease.

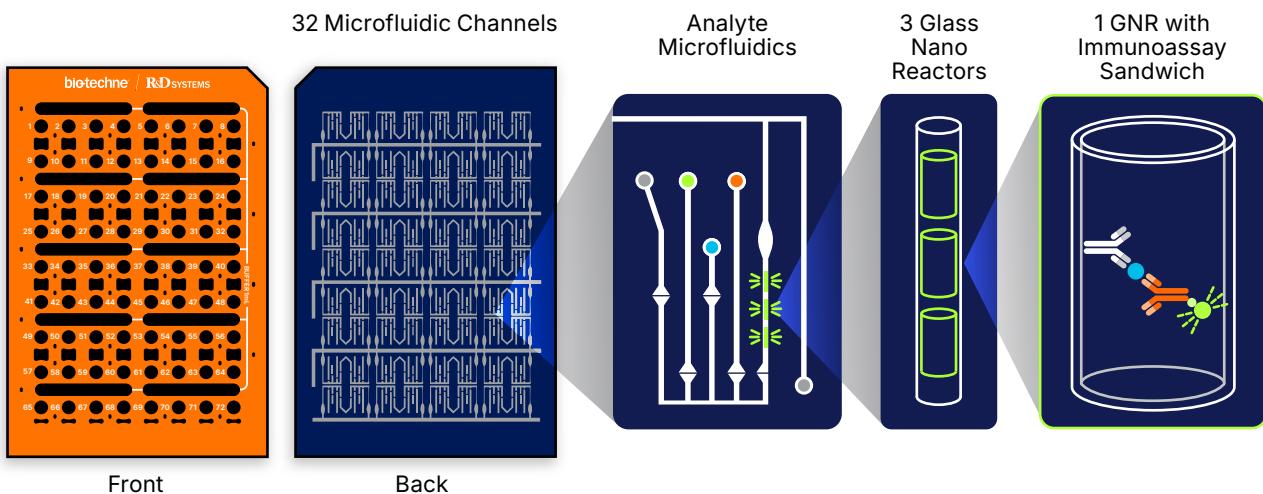
Profiling Precision

For broader profiling, multiplex cartridges allow simultaneous quantification of 5 to 8 analytes per sample. Each channel features two spatially separated capture antibodies, delivering duplicate measurements for every target and enabling up to 256 reportable results per run.

Sandwich immunoassays happen in the Glass Nano Reactor. GNRs are coated with capture antibody.



1. Sample is routed through microfluidic channels
2. Capture antibody captures target analyte
3. Stringent wash removes unbound analyte
4. Detection antibody migrates through microfluidic channel
5. Stringent wash removes unbound detection antibody
6. Scan GNRs



Ella interfaces pneumatically with the Simple Plex Assay Cartridge to automate reagent additions, wash steps, and incubations under precisely controlled conditions.

The sample flows through a microfluidic channel where the target protein binds to a capture surface. Unbound analytes are washed away, and a detection reagent is added. Each channel contains three Glass Nano Reactors (GNRs) coated with capture antibodies, providing triplicate measurements for every sample.

Results are generated using a factory-calibrated standard curve included with each cartridge.

Simple Plex Cartridges are pneumatically operated, pumping liquids from different reservoirs throughout the assay run and leverage valves to allow for analysis of 4 separate analytes at one time.



Build Your Panel

Scan the QR Code or Visit:
bio-techne.com/panelbuilder

Win Your Workflow

Take Back Your Time

No Curve Prep No Guesswork

Each Simple Plex Cartridge comes preloaded with factory-calibrated standard curves, so there's no need to manually prepare your own. This not only saves valuable time but also reduces the potential for variability, making your workflow more efficient and cost-effective.

More Data From Smaller Sample Volumes

Whatever your area of research, getting the most data possible from your samples is critical. Simple Plex Cartridges with up to 8 multiplexed assays are available, offering replicate results all from just 25 μ 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.

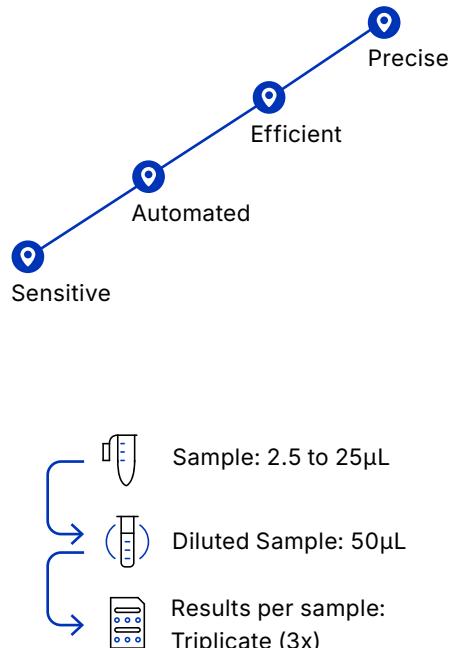
Analytical Precision Made Simple

Simple Plex Assays feature top-quality R&D Systems™ Antibodies and Protein Reagents for consistent and accurate biomarker detection. R&D Systems' rigorous quality standards ensure that proteins, antibodies, and immunoassays are optimized for performance reliability, and consistency.

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

Load and Go Simplicity

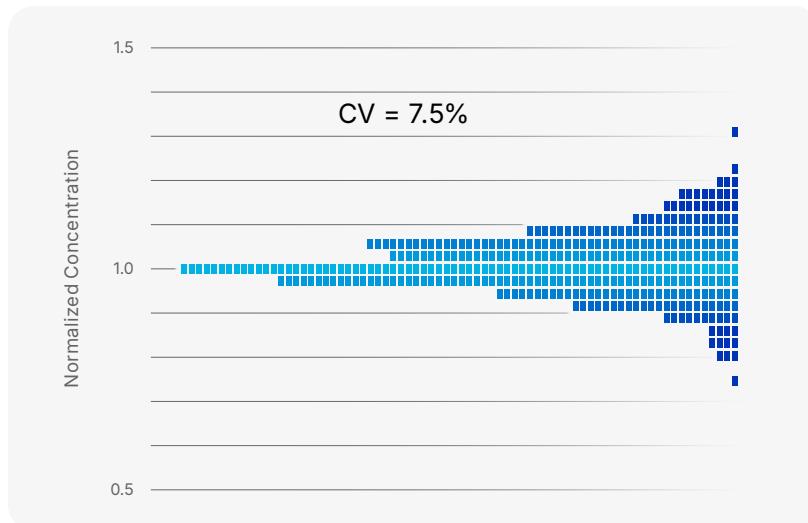
Running an assay on Ella is as easy as adding diluted samples and wash buffer to the cartridge and placing it in the instrument. With everything pre-kitted and ready to go, Ella delivers fully analyzed data in just 90 minutes—freeing up your time while maintaining analytical rigor.



High Sensitivity With Sub-picogram Level Detection

Simple Plex Assays performed on Ella 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.



Multi-Site Testing (all results histogram)

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 data points.

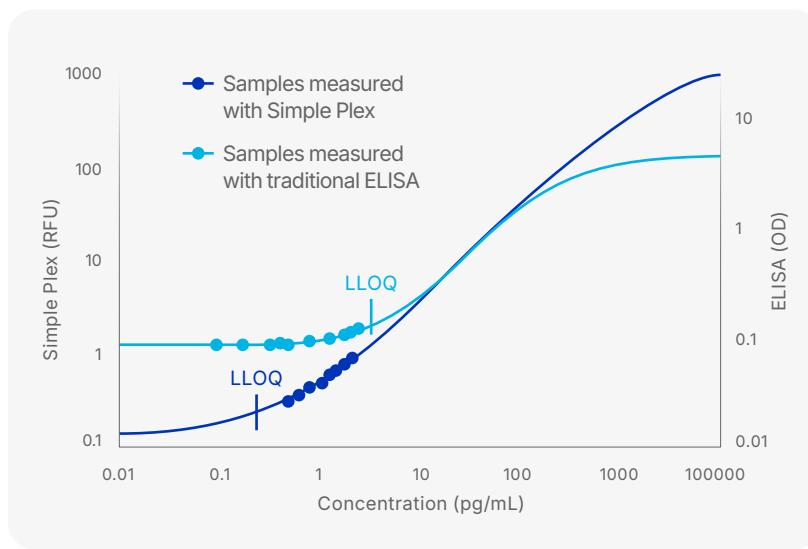
Expanded Dynamic Range With Sub-picogram Detection

Multiplex Without Cross-reactivity

Traditional multiplex assays can be prone to cross-reactivity and interference resulting in sub-par or erroneous data.

Simple Plex Assays on Ella eliminate 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 350+ targets with flexible cartridge options.



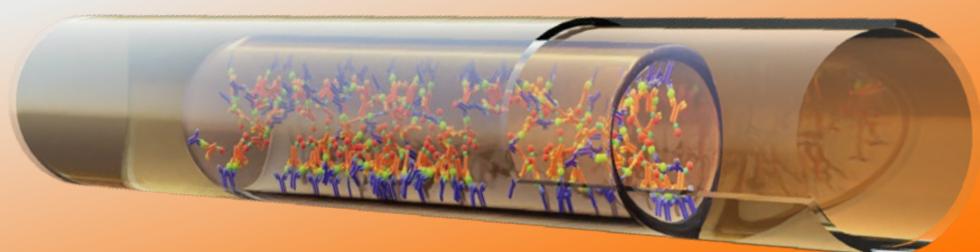
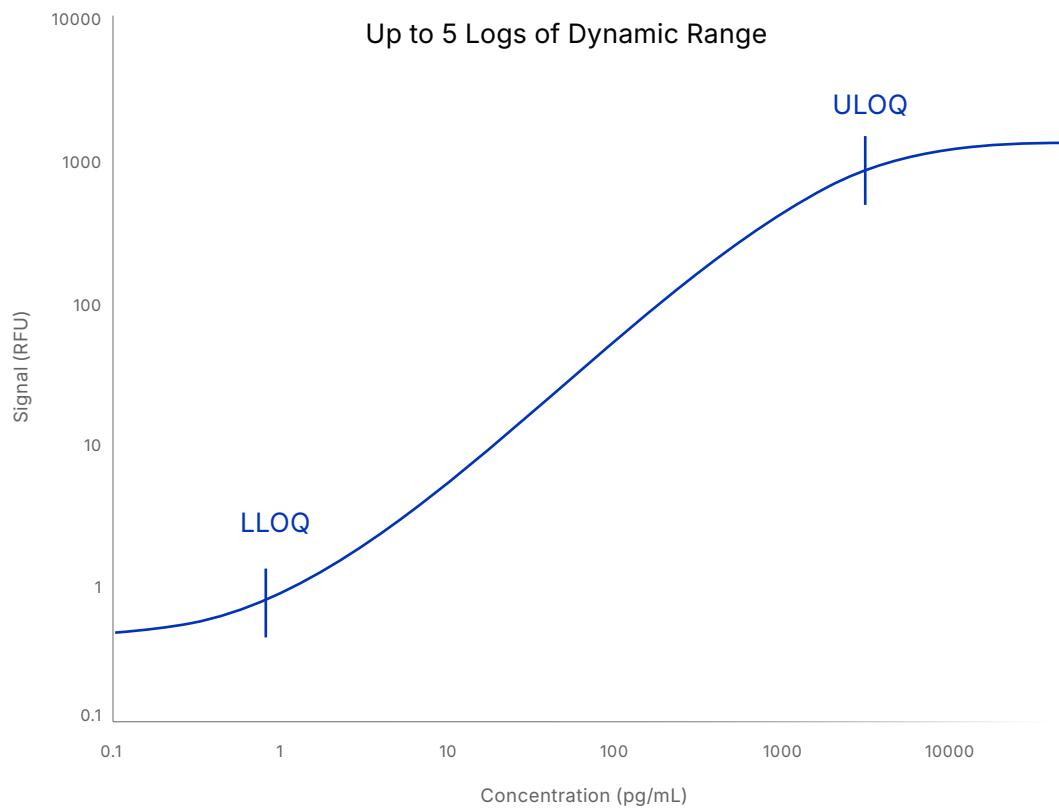
Simple Plex Assays

Powered by R&D Systems



Simple Plex Assays deliver greater precision with minimal training. An automated hands-free workflow helps ensure consistent, reproducible results no matter the lab, instrument, or operator. Quantify up to 8 target analytes in duplicate, or up to 4 target analytes in triplicate. Or maximize throughput for a single analyte with the 72-sample cartridge.

- Broad analyte coverage with a growing menu of biomarkers.
- Results in 90 minutes on the Ella system, eliminating manual steps.
- Get reliable data from cell culture supernates, serum, and plasma.



Broad Range of Validated Targets

The Simple Plex Assay menu of 350+ validated targets span application areas for pre-clinical, clinical research, trials, monitoring to bio-therapeutic manufacturing.

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



Precise Results You Trust

Reproducible and Simple
Solutions for Every Step
of Your Research Journey

Simple Plex Discovery Assays

Fast, Accurate, Consistent

Simple Plex Discovery Assays provide the flexibility you need to explore new biomarkers and accelerate translational research.

Designed for early-stage research and preclinical studies, these assays offer a broad menu of biomarkers, rapid results, and a streamlined workflow to help you generate reliable data faster.

Request a Custom Assay

Accelerate your research with support from our custom development team.

Our scientific experts will collaborate with you to design Simple Plex assays or panels tailored to your specific analytes and required scale.

You'll have a dedicated project manager and receive ongoing support from kickoff through delivery.

Research Advantages:

✓ Comprehensive

Broad analyte coverage with a growing menu of biomarkers.

✓ Speed

Results in 90 minutes on the Ella system, eliminating manual steps.

✓ Reliable

Get reliable data from cell culture supernates, serum, and plasma.

✓ Customizable

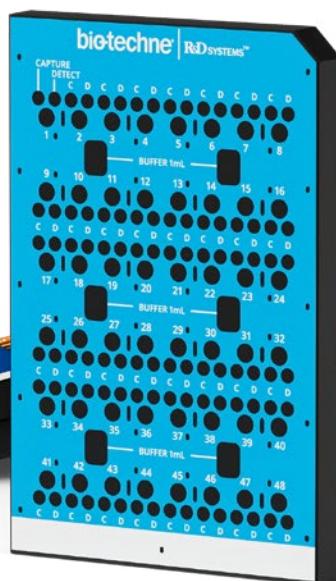
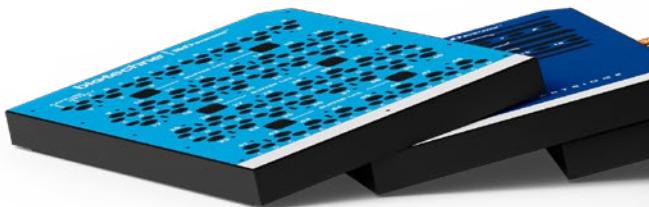
New assay development in a fraction of the time with custom services.



Tell Us About Your Custom Assay Needs

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biotechne.com/services/custom-simple-plex-services



Exploring Simple Plex

Discovery vs. High-Performance Assay Attributes

	Simple Plex Discovery Assays	Simple Plex High-Performance Assays
Recommended When	EARLY RESEARCH TESTING Less stringent assay specifications are required for discovery and early research	HIGHLY VALIDATED KITS Precise and accurate results with tight performance specifications are required for regulated environments
Sensitivity	pg/ml	sub pg/ml
Sample Type	cell culture supernate, serum, plasma	cell culture supernate, serum, plasma, plus others (see individual assay data sheets for others)
Species	Human, Mouse, Rat	Human, Mouse, Rat, Non-Human Primate
Maximum # of Analytes in One Cartridge	Up to 4	Up to 8
Assay Performance	Intra-assay: ≤12% Inter-assay: ≤12%	Intra-assay: ≤10% Inter-assay: ≤12% Extensively tested throughout manufacture & validated to ensure long-term consistency
Precision	Verified across 2 manufactured lots	Validated across 3+ manufactured lots
Linearity	Verified across 2 manufactured lots	Validated across 3+ manufactured lot
Assay Validation	Verified with recombinant proteins	Verified recombinant proteins and natural samples



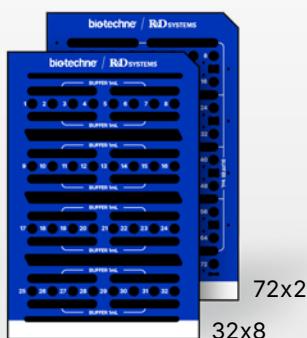
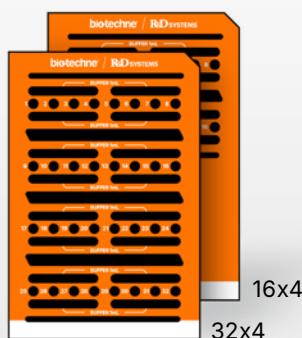
Flexible Formats to Fit Your Workflow

To Match Your Assay Design Needs
Simple Plex Cartridges Are Available
In a Range of Formats



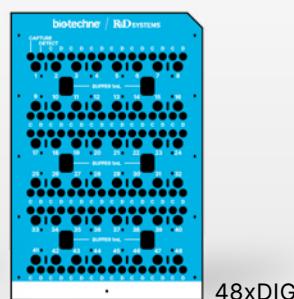
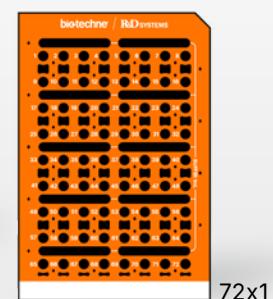
Scaling Throughput With Precision

Multianalyte cartridges let you measure 2, 3, or 4 target analytes in parallel, with each analyte quantified in triplicate for robust, reproducible data. Choose from 16- or 32-sample configurations to scale throughput with ease.



Amplified Profiling Precision

For broader profiling, multiplex cartridges allow simultaneous quantification of 5 to 8 analytes per sample. Each channel features two spatially separated capture antibodies, delivering duplicate measurements for every target and enabling up to 256 reportable results per run.



Multi-Analyte

Up to 4 assays in separate channels

- Up to 32 samples
- 4 Assays
- 3 Replicates

Multiplex

Up to 8 assays for higherplexing

- Up to 72 samples
- 8 Assays
- 2 Replicates

Single Plex

Fast + scalable

- Up to 72 samples
- 1 Assay
- 3 Replicates

Design Your Own

Use your own reagents

- Up to 48 samples
- 1 Assay
- 3 Replicates

Need Complete Control?

The open cartridge format lets you build your own immunoassay using your selected reagents. Screen up to 48 antibody pairs as you customize and optimize your assay—ideal for development workflows requiring flexibility and precision.



Our Available Analytes



Explore Available Analytes

Scan the QR Code or Visit:
bio-techne.com/simpleplexmenu

Human Analytes

Adiponectin/Acrp30, total	CCL4/MIP-1 β	CTGF/CCN2
AFP	CCL5/RANTES	CTLA-4+
alpha 2-Macroglobulin	CCL7/MCP-3	CX3CL1/Fractalkine
alpha-Synuclein	CCL8/MCP-2	CXCL1
Amphiregulin	CCL13/MCP-4	CXCL5/ENA-78
Amyloid Beta aa1-40	CCL16/HCC-4	CXCL9/MIG
Amyloid Beta aa1-42	CCL17/TARC	CXCL10/IP-10
Angiogenin	CCL18/PARC	CXCL12/SDF-1 α
Angiopoietin-1 2nd Gen	CCL19/MIP-3 β	CXCL13/BLC/BCA-1
Angiopoietin-2	CCL20/MIP-3 α	Cyr61/CCN1
Angiopoietin-like 3 (ANGPTL3)	CCL22/MDC	Cystatin C
Angiopoietin-like 4 (ANGPTL4)	CCL26/Eotaxin-3	Cytokeratin 18
ASC	CD14	D-Dimer
Axl	CD163 2nd Gen	DcR3/TNFSF6B
BAFF	CD21	DKK-1
BCMA/TNFRSF17	CD23/Fc epsilon RII Discovery	DLL1 Discovery
BDNF, free	CD25/IL-2 R α	DPPIV/CD26 Discovery
Beta-Defensin 2	CD27	E-Cadherin
Beta-Synuclein	CD28	E-Selectin
BMP-2	CD40/TNFRSF5	EGF
BMP-9	CD40 Ligand/TNFSF5	Endoglin/CD105
C-Reactive Protein (CRP)	CD155/PVR	Endothelin-1
CA125/MUC16	CG beta	ENPP-2
Carbonic Anhydrase IX/CA9	Chitinase 3-like 1/YKL-40	EPO
Caspase-1 2nd Gen	Clusterin	ErbB2
CCL2/MCP-1	Coagulation Factor III/ Tissue Factor Discovery	FABP2/I-FABP
CCL3/MIP-1 α	COMP/Thrombospondin-5	FAP
	Complement Factor D	Fas Ligand
		Fas/TNFRSF6/CD95
		Ferritin
		FGF-19
		FGF-21
		FGF-23
		Fibronectin
		Flt-3 Ligand
		Follistatin
		Galectin-1 Discovery
		Galectin-3BP/MAC-2BP Discovery
		Galectin-3
		Galectin-9 Discovery

Human Analytes

GAS6	I-TAC	Relaxin-2 Discovery
G-CSF	Insulin	Resistin
GDF-8	KGF/FGF-7	SCF
GDF-15	LAG-3	Serpin A1
GDNF Discovery	LBP	Serpin A4/Kallistatin
GFAP 2nd Gen	LDLR Discovery	Serpin E1/PAI-1
GM-CSF	Leptin	Siglec-9
gp130	LIGHT	SP-D
Granzyme A	Lipocalin-2/NGAL	Spinesin Discovery
Granzyme B	M-CSF	ST2/IL-33R/IL-1R4
Growth Hormone (hGH)	MBL Discovery	Syndecan-1 Discovery
HE4/WFDC2	MAdCAM-1	Syndecan-4
Hepcidin	Mesothelin	S100B
HGF	MICA	TACI/TNFRSF13B
HGF R/c-MET	MIF	TFF3
HIV-1 p24 2nd Gen	MMP-7	TFPI Discovery
HVEM	MMP-8	TfR Discovery
ICAM-1	MMP-9	TGF-β 1
IFN-α (multi-subtype)	Myeloperoxidase/MPO	TGF-alpha Discovery
IFN-α 2	Nectin-2/CD112	Thrombospondin-1
IFN-β	Nectin-4 Discovery	Thrombomodulin Discovery
IFN-γ 3rd Gen	Neprilysin/CD10	Thrombospondin-2 Discovery
IGFBP-1	Neutrophil Elastase/ELA2	Tie-2
IGFBP-2	Neurofilament Light (NF-L)	TIM-1/KIM-1/HAVCR
IGFBP-rp1/IGFBP-7	Neurogranin	TIM-3
IL-1α	NF-H Discovery	TIMP-1
IL-1β	NGFR/TNFRSF16	TIMP-2
IL-1ra/IL-1F3	NGF-β	TNF α 2nd Gen
IL-2	Osteopontin (OPN) 2nd Gen	TNF R1
IL-3 Discovery	OX40/TNFSF4 Discovery	TNF RII
IL-4 2nd Gen	Osteoprotegrin/TNFRSF11B (OPG)	Total Tau
IL-5	OX40 Ligand/TNFSF4	TRAIL
IL-6 3rd Gen	OX40/TNFRSF4 Discovery	Trappin-2/Elafin
IL-6 Ra	Pancreatic Polypeptide/	TRANCE/RANK L/TNFSF11
IL-7	PP Discovery	TREM-1
IL-8/CXCL8	Park 7 Discovery	TREM-2
IL-10 2nd Gen	PD-1 Discovery	TSLP Discovery
IL-11	PD-L1/B7-H1 2nd Gen	UCH-L1
IL-12-p70	PD-L2 Discovery	uPAR
IL-13	PDGF-AB Discovery	u-Plasminogen/uPA
IL-15	PDGF-BB	Uromodulin Discovery
IL-16 Discovery	Pentraxin 3/TSG-14	Uteroglobin Discovery
IL-17A	Perforin	VAP-1 Discovery
IL-18	Periostin/OSF-2	VCAM-1
IL-18 BPa	Phospho-Tau (T217)	VEGF (VEGF-A)
IL-19	Placenta Growth Factor (PIGF)	VEGFR1/Flt-1
IL-21	Procalcitonin	VEGFR2/KDR
IL-22	Pro-Gastrin-releasing Peptide	VEGF-B
IL-33	Proprotein Convertase 9/PCSK9	VEGF-C
	P-Selectin/CD62P	VEGF-D
	RAGE	Vitamin D BP
	Reg-3a	

Mouse Analytes

Adiponectin
α-Fetoprotein/AFP
Angiopoietin-2
Angiopoietin-like 3
BAFF
beta-Synuclein
CCL2/JE/MCP-1
CCL3
CCL4
CCL5/RANTES
CD25/IL-2 R α
Chitinase 3-like 1
C-Reactive Protein
CXCL1/KC
CXCL2/MIP-2
CXCL10/IP-10/CRG-2
CXCL12/SDF-1 α
CXCL13/BLC/BCA-1
CXCL15/Lungkine
Cystatin C
Erythropoietin/EPO
FGF-21
Flt-3 Ligand/FLT3L
G-CSF
GDF-8
GDF-15
GM-CSF
Granzyme-B
IFN- γ
IL-1 β
IL-1ra/IL-1F3
IL-2
IL-4
IL-5
IL-6
IL-7
IL-12 p70
IL-17
IL-18
Lipocalin-2/NGAL
M-CSF
MMP-9 Total Discovery
Neurofilament Light (NF-L)
Osteopontin (OPN)
Park 7 Discovery
P-Selectin
SP-D
ST2/IL-33R/IL-1R4
S100B

TGF- β 1
TIM-1/KIM-1/HAVCR
TNF- α
TREM-2
VCAM-1/CD106
VEGF-A

Fibronectin
FLT-3 Ligand
GM-CSF
Granzyme A
Granzyme B
IFN- α
IFN- γ
IGFBP-rp1/IGFBP-7
IL-1 β
IL-2
IL-4
IL-5
IL-6
IL-6 R α
IL-8/CXCL8
IL-13
IL-15
IL-17A
IL-18
Insulin
Nectin-2/CD112
Neurofilament Light (NF-L)
PDGF-BB
PD-L1/B7-H1
Perforin
P-Selectin/CD62P
TIMP-2
TNF R1
TNF RII
TNF α
uPAR
VEGF-A

Rat Analytes

Angiopoietin-2
beta-Synuclein
CCL2/JE/MCP-1
CCL5/RANTES
CD25/IL-2 R α
Chitinase 3-like 1
Cystatin C
FGF-21
Flt-3 Ligand/FLT3L
GDF-8
Lipocalin 2
Park 7 Discovery
M-CSF
MMP-9 Total Discovery
NF-L
Osteopontin (OPN)
SP-D
S100B
TGF- β 1
TIM-1
TREM-2
VCAM-1/CD106
VEGF-A

Non-Human Primate Analytes

Angiopoietin-1
Angiopoietin-like 3 (ANGPTL3)
BDNF, free
CCL19/MIP-3 β
CCL2/MCP-1
CCL3/MIP-1 α
CCL4/MIP-1 β
CCL5/RANTES
CD163
C-Reactive Protein (CRP)
CTLA-4
CXCL10/IP-10
CXCL13/BLC/BCA-1
FAS Ligand

Viral Titer Quantitation

AAV1
AAV2
AAV3
AAV6
AAV8
HIV p24 Assay

Impurity Testing

CHO HCP 3G-1
Endonuclease
GFP
HEK 293 HCP 3G
Protein A

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