

Meet Ella

*Automated Immunoassay
System for Precise and
Reproducible Results*



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



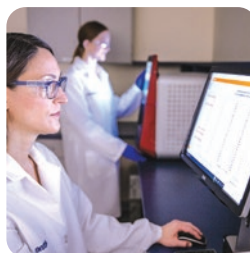
ADD

Sample
Wash Buffer



PROCESS

Place cartridge in Ella
and process run



REVIEW

Review your fully
analyzed results

15 min
75 min

Flexible Cartridge Options

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



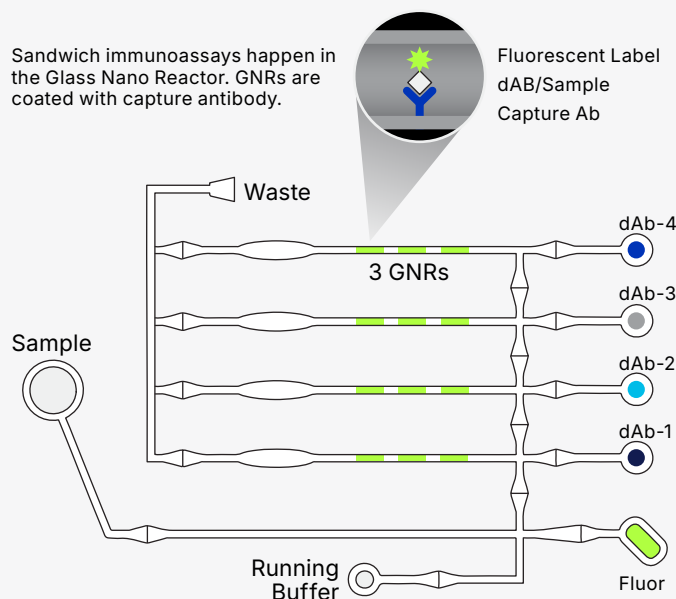
Scaling With Ease

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.

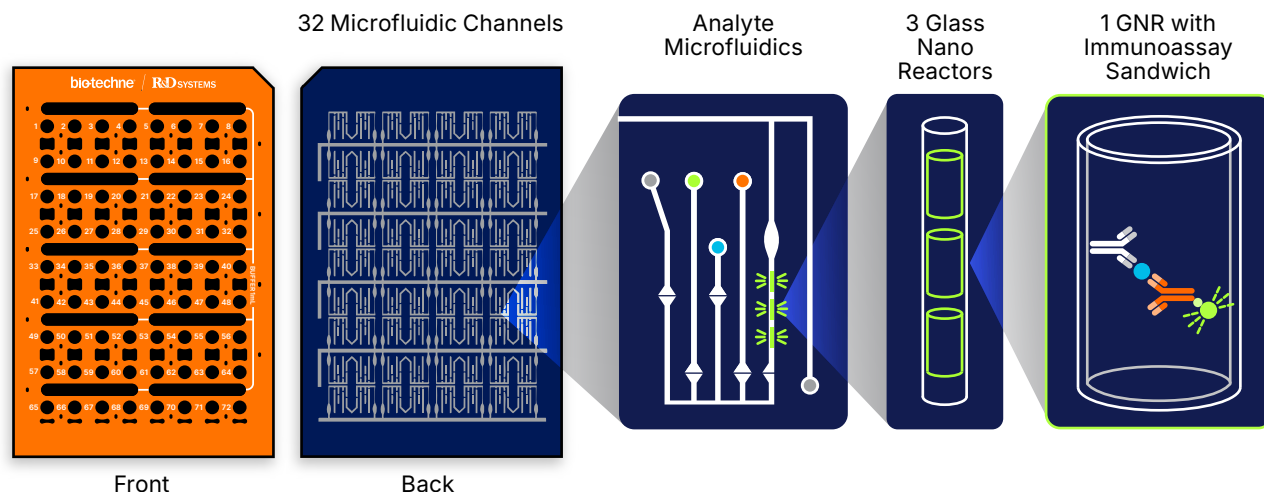
Profiling Precision

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

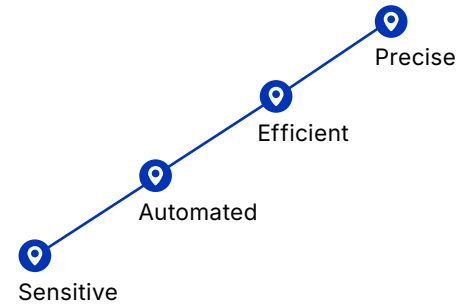
Scan the QR Code or Visit:
bio-techne.com/panelbuilder

Win Your Workflow

Take Back Your Time

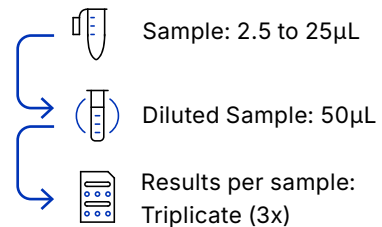
No Curve Prep No Guesswork

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

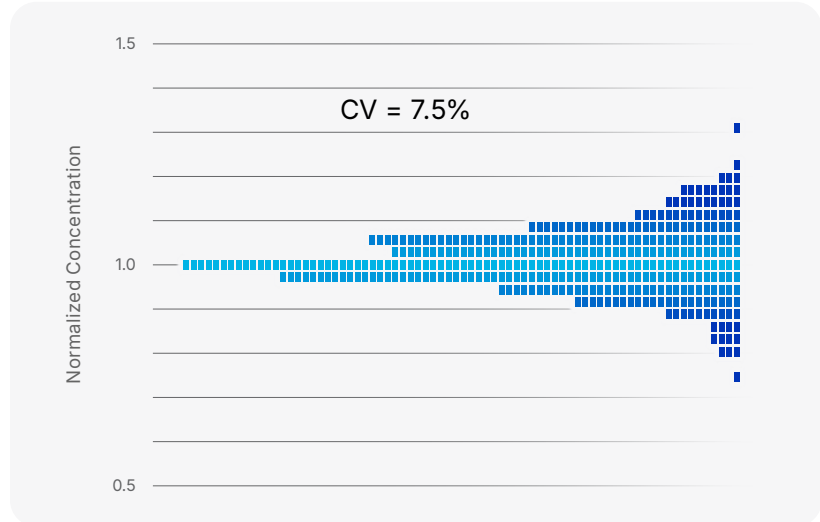
Running an assay on Ella is as easy as adding diluted samples and wash buffer to the cartridge and placing it in the instrument. With everything pre-kitted and ready to go, Ella delivers fully analyzed data in just 90 minutes—freeing up your time while maintaining analytical rigor.



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.

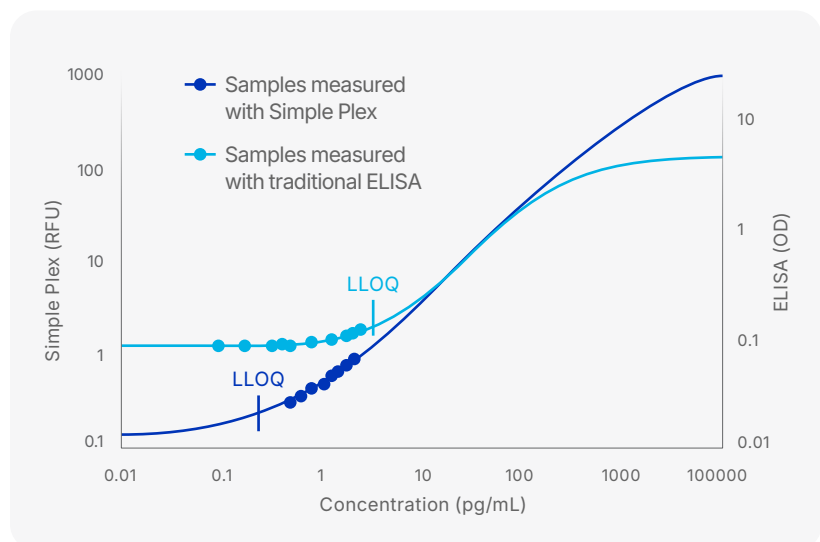
Expanded Dynamic Range With Sub-picogram Detection

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.

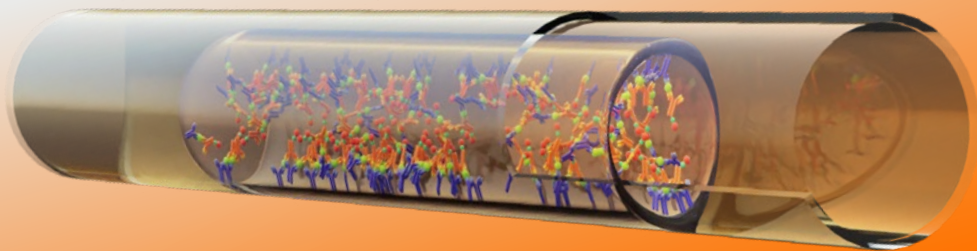
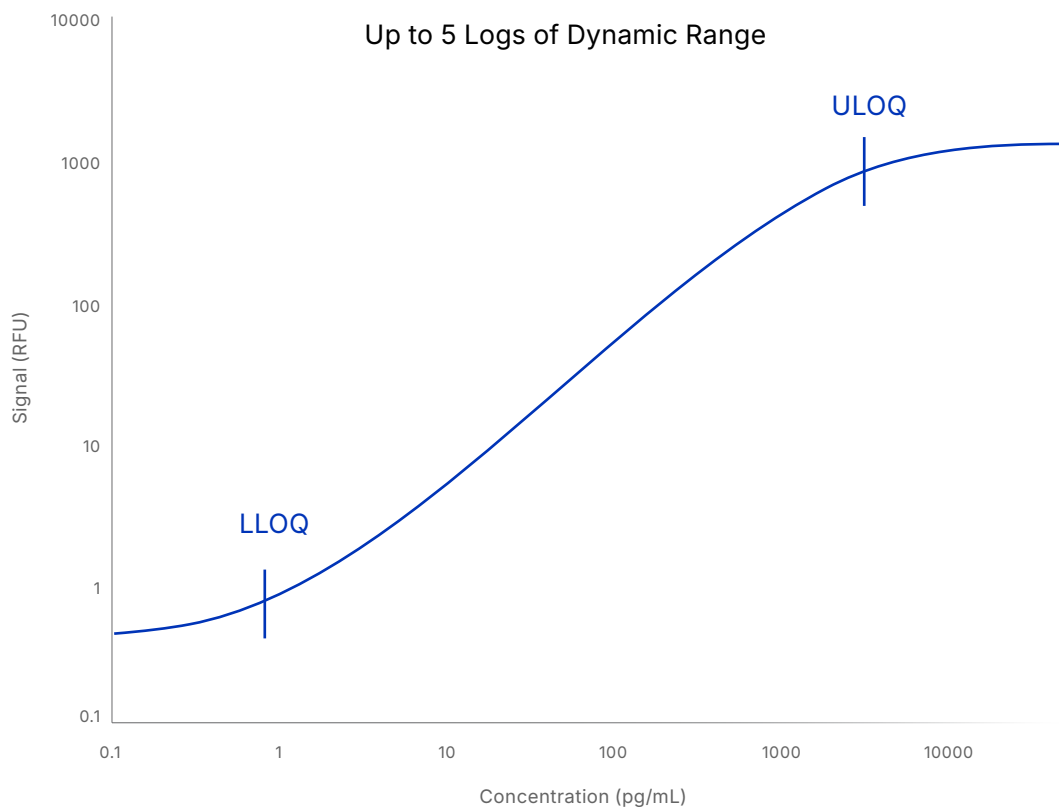


Simple Plex Assays

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

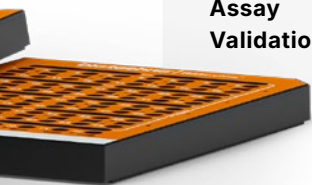
Scan the QR Code or Visit:
bio-techne.com/services/custom-simple-plex-services



Exploring Simple Plex

Discovery vs. High-Performance Assay Attributes

	Simple Plex Discovery Assays	Simple Plex High-Performance Assays
	<i>EARLY RESEARCH TESTING</i>	<i>HIGHLY VALIDATED KITS</i>
Recommended When	Less stringent assay specifications are required for discovery and early research	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: $\leq 12\%$ Inter-assay: $\leq 12\%$	Intra-assay: $\leq 10\%$ Inter-assay: $\leq 12\%$ 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



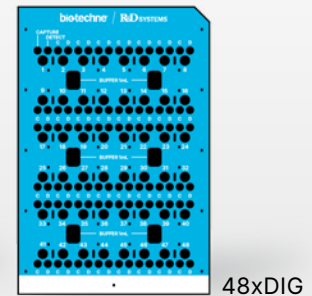
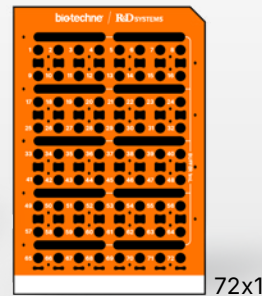
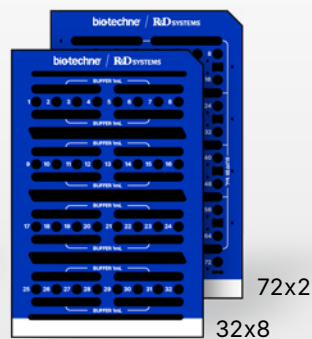
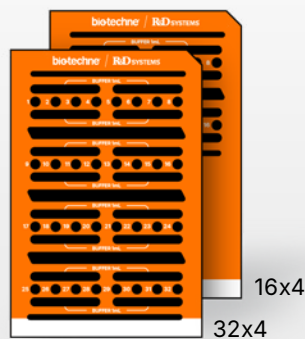
Flexible Formats to Fit Your Workflow

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.



Multi-Analyte

Up to 4 assays in separate channels

- Up to 32 samples
- 4 Assays
- 3 Replicates

Multiplex

Up to 8 assays for higher plexing

- 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
AFP

alpha 2-Macroglobulin
alpha-Synuclein

Amphiregulin
Amyloid Beta aa1-40
Amyloid Beta aa1-42

Angiogenin
Angiopoietin-1 2nd Gen
Angiopoietin-2

Angiopoietin-like 3 (ANGPTL3)
Angiopoietin-like 4 (ANGPTL4)
ASC

Axl
BAFF
BCMA/TNFRSF17

BDNF, free
Beta-Defensin 2
Beta-Synuclein

BMP-2
BMP-9
C-Reactive Protein (CRP)

CA125/MUC16
Carbonic Anhydrase IX/CA9
Caspase-1 2nd Gen

CCL2/MCP-1
CCL3/MIP-1 α

CCL4/MIP-1 β
CCL5/RANTES
CCL7/MCP-3
CCL8/MCP-2
CCL13/MCP-4
CCL16/HCC-4
CCL17/TARC
CCL18/PARC
CCL19/MIP-3 β
CCL20/MIP-3 α
CCL22/MDC
CCL26/Eotaxin-3
CD14
CD163 2nd Gen
CD21
CD23/Fc epsilon RII Discovery
CD25/IL-2 R α
CD27
CD28
CD40/TNFRSF5
CD40 Ligand/TNFSF5
CD155/PVR
CG beta
Chitinase 3-like 1/YKL-40
Clusterin
Coagulation Factor III/
Tissue Factor Discovery
COMP/Thrombospondin-5
Complement Factor D

CTGF/CCN2
CTLA-4+
CX3CL1/Fractalkine
CXCL1
CXCL5/ENA-78
CXCL9/MIG
CXCL10/IP-10
CXCL12/SDF-1 α
CXCL13/BLC/BCA-1
Cyr61/CCN1
Cystatin C
Cytokeratin 18
D-Dimer
DcR3/TNFSF6B
DKK-1
DLL1 Discovery
DPPIV/CD26 Discovery
E-Cadherin
E-Selectin
EGF
Endoglin/CD105
Endothelin-1
ENPP-2
EPO
ErbB2
FABP2/I-FABP
FAP
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
 G-CSF
 GDF-8
 GDF-15
 GDNF Discovery
 GFAP 2nd Gen
 GM-CSF
 gp130
 Granzyme A
 Granzyme B
 Growth Hormone (hGH)
 HE4/WFDC2
 Hepcidin
 HGF
 HGF R/c-MET
 HIV-1 p24 2nd Gen
 HVEM
 ICAM-1
 IFN- α (multi-subtype)
 IFN- α 2
 IFN- β
 IFN- γ 3rd Gen
 IGFBP-1
 IGFBP-2
 IGFBP-rp1/IGFBP-7
 IL-1 α
 IL-1 β
 IL-1ra/IL-1F3
 IL-2
 IL-3 Discovery
 IL-4 2nd Gen
 IL-5
 IL-6 3rd Gen
 IL-6 R α
 IL-7
 IL-8/CXCL8
 IL-10 2nd Gen
 IL-11
 IL-12-p70
 IL-13
 IL-15
 IL-16 Discovery
 IL-17A
 IL-18
 IL-18 BP α
 IL-19
 IL-21
 IL-22
 IL-33

I-TAC
 Insulin
 KGF/FGF-7
 LAG-3
 LBP
 LDLR Discovery
 Leptin
 LIGHT
 Lipocalin-2/NGAL
 M-CSF
 MBL Discovery
 MAdCAM-1
 Mesothelin
 MICA
 MIF
 MMP-7
 MMP-8
 MMP-9
 Myeloperoxidase/MPO
 Nectin-2/CD112
 Nectin-4 Discovery
 Neprilysin/CD10
 Neutrophil Elastase/ELA2
 Neurofilament Light (NF-L)
 Neurogranin
 NF-H Discovery
 NGFR/TNFRSF16
 NGF- β
 Osteopontin (OPN) 2nd Gen
 OX40/TNFSF4 Discovery
 Osteoprotegrin/TNFRSF11B (OPG)
 OX40 Ligand/TNFSF4
 OX40/TNFRSF4 Discovery
 Pancreatic Polypeptide/
 PP Discovery
 Park 7 Discovery
 PD-1 Discovery
 PD-L1/B7-H1 2nd Gen
 PD-L2 Discovery
 PDGF-AB Discovery
 PDGF-BB
 Pentraxin 3/TSG-14
 Perforin
 Periostin/OSF-2
 Phospho-Tau (T217)
 Placenta Growth Factor (PIGF)
 Procalcitonin
 Pro-Gastrin-releasing Peptide
 Proprotein Convertase 9/PCSK9
 P-Selectin/CD62P
 RAGE
 Reg-3a

Relaxin-2 Discovery
 Resistin
 SCF
 Serpin A1
 Serpin A4/Kallistatin
 Serpin E1/PAI-1
 Siglec-9
 SP-D
 Spinesin Discovery
 ST2/IL-33R/IL-1R4
 Syndecan-1 Discovery
 Syndecan-4
 S100B
 TACI/TNFRSF13B
 TFF3
 TFPI Discovery
 TfR Discovery
 TGF- β 1
 TGF- α Discovery
 Thrombospondin-1
 Thrombomodulin Discovery
 Thrombospondin-2 Discovery
 Tie-2
 TIM-1/KIM-1/HAVCR
 TIM-3
 TIMP-1
 TIMP-2
 TNF α 2nd Gen
 TNF R1
 TNF RII
 Total Tau
 TRAIL
 Trappin-2/Elafin
 TRANCE/RANK L/TNFSF11
 TREM-1
 TREM-2
 TSLP Discovery
 UCH-L1
 uPAR
 u-Plasminogen/uPA
 Uromodulin Discovery
 Uteroglobin Discovery
 VAP-1 Discovery
 VCAM-1
 VEGF (VEGF-A)
 VEGFR1/Flt-1
 VEGFR2/KDR
 VEGF-B
 VEGF-C
 VEGF-D
 Vitamin D BP

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

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

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

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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