



MESO SCALE DISCOVERY®

www.mesoscale.com/Assays

High Performance Biomarker Assays and Services

Singleplex and Multiplex Assay List

2017

The MSD® Advantage	2
V-PLEX® Assays NEW ASSAYS AVAILABLE NOW	3-5
MSD GOLD™ Products	6
U-PLEX® Assays NEW ASSAYS AVAILABLE NOW	7-9
Standard Assays	10-13
MSD Services and Custom Assay Capabilities	14
S-PLEX SM Sample-Testing Services	15



MESO® QuickPlex SQ 120

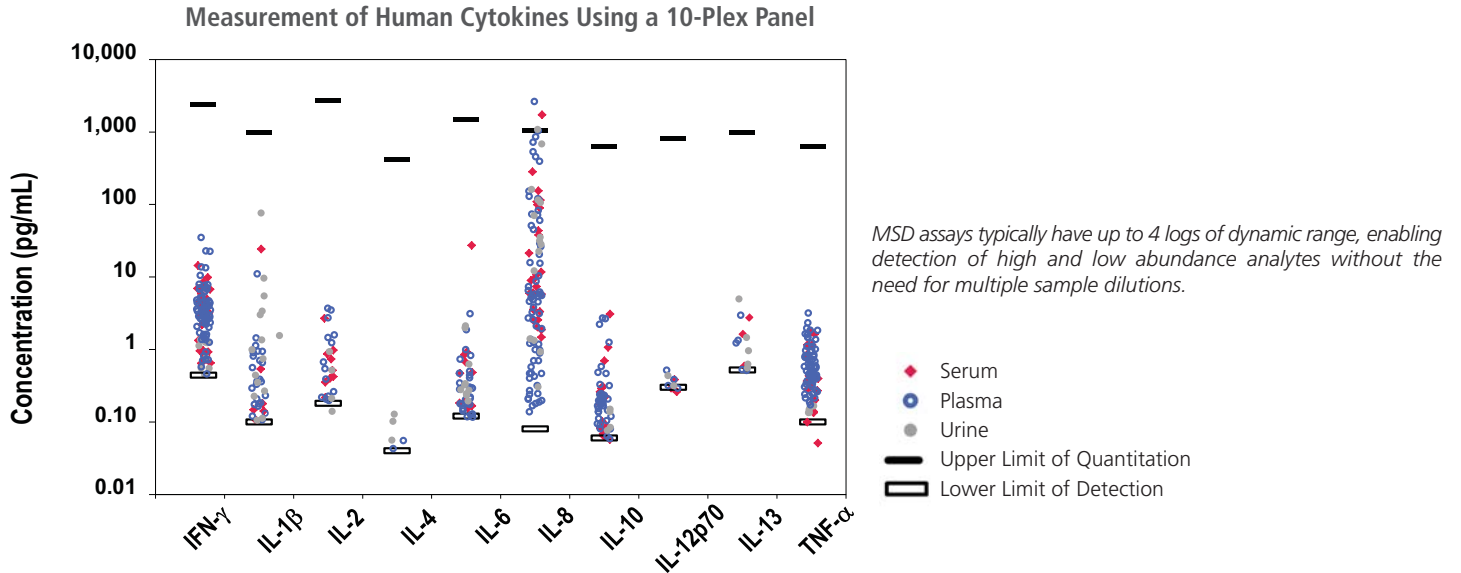
MESO SECTOR® S 600

The MSD Advantage

Highly sensitive, easy-to-use assays by MSD enable researchers to:

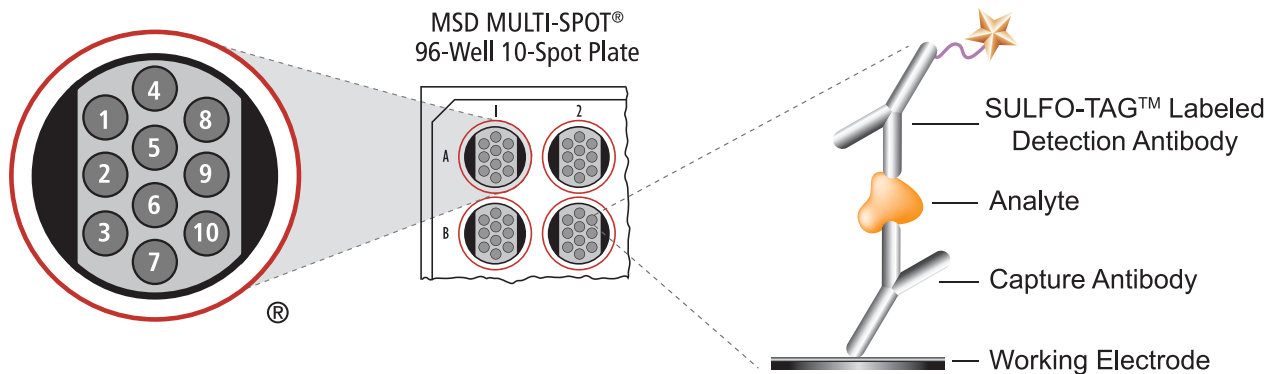
- Measure high and low abundance targets in the same sample, with no extra dilutions necessary
- Read plates quickly, in as little as 90 seconds
- Measure multiple targets in a single sample

MSD biomarker assays provide a rapid and convenient method for measuring the levels of individual or multiple targets within a single, small-volume sample. The MSD product line includes a diverse menu of assay types well-suited to a broad range of applications.



MULTI-ARRAY[®] Technology

MSD's products are based on MULTI-ARRAY technology, a unique combination of electrochemiluminescence (ECL) detection and patterned arrays. ECL detection offers exceptional sensitivity, dynamic range, and convenience. Background signals are minimal because the stimulation mechanism (electricity) is decoupled from the signal (light). Arrays bring speed and high information density to discovery through miniaturization, organization, and parallel processing of biological assays.



MULTI-SPOT technology enables multiplexing up to ten analytes per well and supports different assay formats, including sandwich immunoassays.

Discover the Right Immunoassay for You

V-PLEX® / GOLD

U-PLEX®

S-PLEXSM

Standard

Custom/Services

	Most validated	Most flexible	Most sensitive	Broadest menu	Tailor made to meet your needs
Recommended Applications	When lot-to-lot reproducibility and consistency of results are critical.	When flexibility and variety in multiplex matters.	For specific measurement of very low abundance proteins.	Replaces traditional methods like ELISA.	Assays manufactured to specific requirements.
Advantages	Provides confidence and reliability. Formally validated with guaranteed performance specifications.	Easily creates customized multiplex panels. Use MSD reagents or bring your own.	Measures proteins that are otherwise unmeasurable. Built-in selectivity for rigorous results.	Analyzes protein levels from many sample types with a single assay. Improved analytical performance.	Provides MSD products specific to your application that are otherwise unavailable.

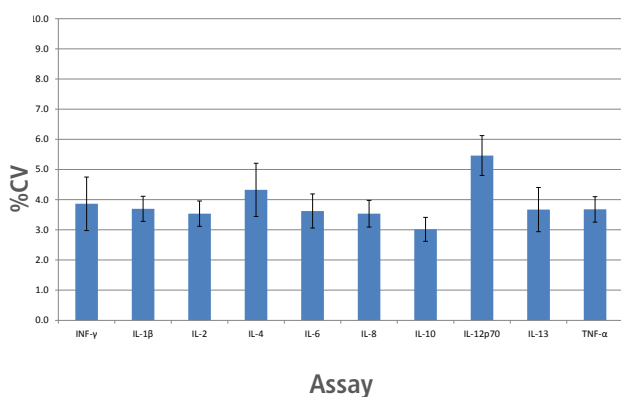
V-PLEX Assays: MSD's Most Validated Assay Platform **V**-PLEX

V-PLEX assays are designed to maximize consistency in results and confidence in data. Developed under design control and according to the FDA's analytical validation guidelines, the final product represents the highest quality assay available from MSD. Comprehensive testing of all raw materials and kit components combined with rigorous manufacturing and QC specifications ensure reproducible results time after time.

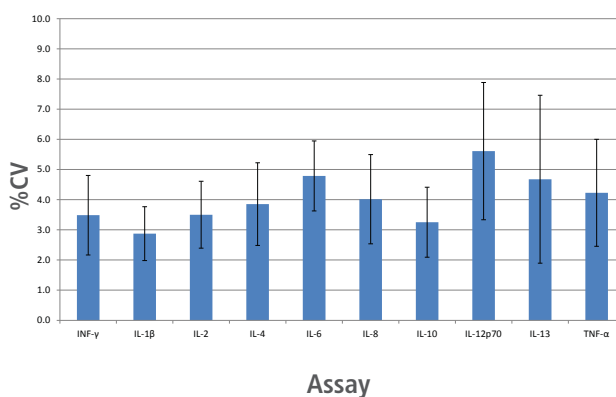
Offering exceptional dynamic range, high sensitivity, accurate results, and lot-to-lot consistency, V-PLEX kits are available as individual analyte kits, preconfigured multiplex panels, and custom multiplex panels.

All cytokine V-PLEX assays have been validated with serum, plasma, urine, and cell culture supernatant samples. Neuroinflammation and neurodegeneration assays have also been validated with CSF. For supplementary sample type information, including additional validated sample types, consult the Product Insert or visit our website.

Intra-plate Reproducibility Across Proinflammatory Panel 1 (human) Assays



Inter-plate Reproducibility Across Proinflammatory Panel 1 (human) Assays



Data shown represent 35 lots of V-PLEX Proinflammatory Panel 1 (human) plates (Cat. No. K15049G). Intra-plate %CV and inter-plate %CV for all assays were observed to be less than 6% and less than 8%, respectively.

V-PLEX Analytes

V-PLEX analytes are available as validated individual assays or as part of a validated multiplex panel.

Human		Human		NHP		Mouse	
Analyte (hu)	LLOQ - ULOQ (pg/mL)	Analyte (hu)	LLOQ - ULOQ (pg/mL)	Analyte (NHP)	LLOQ - ULOQ (pg/mL)	Analyte (ms)	LLOQ - ULOQ (pg/mL)
Aβ38 (6E10)	60.0 – 8,480	SAA	54.0 – 138,000	MIP-1β	2.27 – 750	Aβ38 (4G8)	60.0 – 7,500
Aβ40 (6E10)	50.0 – 7,000	TARC	3.32 – 1,120	TARC	3.32 – 1,120	Aβ40 (4G8)	20.0 – 6,000
Aβ42 (6E10)	3.13 – 1,270	Tau	30.0 – 8,000	TNF-β	1.15 – 458	Aβ42 (4G8)	2.50 – 1,271
Aβ38 (4G8)	60.0 – 7,500	Tie-2	396 – 63,400	VEGF-A	7.70 – 562	IFN-γ	0.390 – 570
Aβ40 (4G8)	20.0 – 6,000	TNF-α	0.690 – 248			IL-1β	0.720 – 1,030
Aβ42 (4G8)	2.50 – 1,271	TNF-β	1.15 – 458			IL-2	1.03 – 1,570
Aβ42	3.00 – 2,000	VCAM-1	37.6 – 32,000			IL-4	2.58 – 1,060
CRP	27.6 – 49,600	VEGF-A	7.70 – 562			IL-5	1.60 – 590
Eotaxin	12.3 – 1,120	VEGF-C	146 – 17,500			IL-6	7.61 – 3,140
Eotaxin-3	10.2 – 3,750	VEGF-D	67.1 – 18,800			IL-10	19.8 – 2,030
FGF (basic)	2.60 – 1,780					IL-12p70	179 – 20,600
Flt-1/VEGFR-1	10.0 – 6,410					KC/GRO	3.29 – 1,230
GM-CSF	1.90 – 750					TNF-α	0.980 – 403
ICAM-1	6.40 – 32,700						
IFN-γ	7.47 – 938						
IL-1α	2.85 – 278						
IL-1β	2.14 – 375						
IL-2	0.890 – 938						
IL-4	0.450 – 158						
IL-5	6.28 – 562						
IL-6	1.58 – 488						
IL-7	1.37 – 563						
IL-8	1.13 – 375						
IL-8 (HA*)	713 – 43,400						
IL-10	0.680 – 233						
IL-12/IL-23p40	5.68 – 2,250						
IL-12p70	1.22 – 315						
IL-13	4.21 – 353						
IL-15	1.40 – 525						
IL-16	19.1 – 1,870						
IL-17A	9.32 – 3,650						
IP-10	1.37 – 500						
MCP-1	1.09 – 375						
MCP-4	5.13 – 469						
MDC	88.3 – 7,500						
MIP-1α	13.8 – 743						
MIP-1β	2.27 – 750						
PIGF	10.7 – 2,370						

Non-Human Primate (NHP)**	
Analyte (NHP)	LLOQ - ULOQ (pg/mL)
Eotaxin-3	10.2 – 3,750
GM-CSF	1.90 – 750
IFN-γ	7.47 – 938
IL-1β	2.14 – 375
IL-2	0.890 – 938
IL-5	6.28 – 562
IL-6	1.58 – 488
IL-7	1.37 – 563
IL-8	1.13 – 375
IL-8 (HA*)	713 – 43,400
IL-10	0.680 – 233
IL-12/IL-23p40	5.68 – 2,250
IL-15	1.40 – 525
IL-16	19.1 – 1,870
IL-17A	9.32 – 3,650
IP-10	1.37 – 500
MCP-1	1.09 – 375
MCP-4	5.13 – 469
MDC	88.3 – 7,500
MIP-1α	13.8 – 743

Rat	
Analyte (rat)	LLOQ - ULOQ (pg/mL)
Aβ38 (4G8)	60.0 – 7,500
Aβ40 (4G8)	20.0 – 6,000
Aβ42 (4G8)	2.50 – 1,271
IFN-γ	39.7 – 3,750
IL-1β	102 – 8,100
IL-4	8.00 – 723
IL-5	82.0 – 3,000
IL-6	96.9 – 8,550
IL-10	163 – 15,700
IL-13	12.5 – 1,080
KC/GRO	21.7 – 728
TNF-α	9.10 – 793

*High-abundance (This assay quantitates high levels of IL-8.)

**NHP assays recognize analytes from *Cynomolgus* and *Rhesus* monkeys. The LLOQ and the ULOQ represent the limits of quantitation of the assay.

NEW HUMAN TH17 CYTOKINE ANALYTES AVAILABLE NOW

Analyte	LLOQ - ULOQ (pg/mL)
IL-17A (Gen. B)	5.86 – 1,950
IL-21	1.65 – 650
IL-22	2.78 – 325
IL-23	4.60 – 3,250
IL-27	38.7 – 13,000
IL-31	4.22 – 650
MIP-3α	0.588 – 325

Preconfigured V-PLEX Kits

Subsets of analytes, which meet the same specifications for quality and performance, can be ordered from a preconfigured panel. All panels are available in 1, 5, and 25-plate pack sizes.

Species	Name (Cat. No.)	Analytes
Human	Biomarker 46-Plex Kit (K15088G) NEW	CRP, Eotaxin, Eotaxin-3, FGF (basic), Flt-1, GM-CSF, ICAM-1, IFN- γ , IL-1 α , IL-1 β , IL-2, IL-4, IL-5, IL-6, IL-7, IL-8, IL-8 (HA*), IL-10, IL-12p70, IL-12/IL-23p40, IL-13, IL-15, IL-16, IL-17A, IL-21, IL-22, IL-23, IL-27, IL-31, IP-10, MCP-1, MCP-4, MDC, MIP-1 α , MIP-1 β , MIP-3 α , PIGF, SAA, TARC, Tie-2, TNF- α , TNF- β , VCAM-1, VEGF-A, VEGF-C, VEGF-D
Human	Biomarker 40-Plex Kit (K15209G)	CRP, Eotaxin, Eotaxin-3, FGF (basic), Flt-1, GM-CSF, ICAM-1, IFN- γ , IL-1 α , IL-1 β , IL-2, IL-4, IL-5, IL-6, IL-7, IL-8, IL-8 (HA*), IL-10, IL-12p70, IL-12/IL-23p40, IL-13, IL-15, IL-16, IL-17A, IP-10, MCP-1, MCP-4, MDC, MIP-1 α , MIP-1 β , PIGF, SAA, TARC, Tie-2, TNF- α , TNF- β , VCAM-1, VEGF-A, VEGF-C, VEGF-D
Human	Cytokine 36-Plex Kit (K15089G) NEW	Eotaxin, Eotaxin-3, GM-CSF, IFN- γ , IL-1 α , IL-1 β , IL-2, IL-4, IL-5, IL-6, IL-7, IL-8, IL-8 (HA*), IL-10, IL-12p70, IL-12/IL-23p40, IL-13, IL-15, IL-16, IL-17A, IL-21, IL-22, IL-23, IL-27, IL-31, IP-10, MCP-1, MCP-4, MDC, MIP-1 α , MIP-1 β , MIP-3 α , TARC, TNF- α , TNF- β , VEGF-A
Human	Cytokine 30-Plex Kit (K15054G)	Eotaxin, Eotaxin-3, GM-CSF, IFN- γ , IL-1 α , IL-1 β , IL-2, IL-4, IL-5, IL-6, IL-7, IL-8, IL-8 (HA*), IL-10, IL-12p70, IL-12/IL-23p40, IL-13, IL-15, IL-16, IL-17A, IP-10, MCP-1, MCP-4, MDC, MIP-1 α , MIP-1 β , TARC, TNF- α , TNF- β , VEGF-A
Human	Proinflammatory Panel 1 (K15049G)	IFN- γ , IL-1 β , IL-2, IL-4, IL-6, IL-8, IL-10, IL-12p70, IL-13, TNF- α
Human	TH17 Panel 1 (K15085G) NEW	IL-17A (Gen. B), IL-21, IL-22, IL-23, IL-27, IL-31, MIP-3 α
Human	Cytokine Panel 1 (K15050G)	GM-CSF, IL-1 α , IL-5, IL-7, IL-12/IL-23p40, IL-15, IL-16, IL-17A, TNF- β , VEGF-A
Human	Chemokine Panel 1 (K15047G)	Eotaxin, Eotaxin-3, IL-8 (HA*), IP-10, MCP-1, MCP-4, MDC, MIP-1 α , MIP-1 β , TARC
Human	Angiogenesis Panel 1 (K15190G)	FGF (basic), Flt-1/VEGFR-1, PIGF, Tie-2, VEGF-A**, VEGF-C, VEGF-D
Human	Vascular Injury Panel 2 (K15198G)	CRP, ICAM-1, SAA, VCAM-1
Human	Neuroinflammation Panel 1 (K15210G)	CRP, Eotaxin, Eotaxin-3, FGF (basic), Flt-1/VEGFR-1, ICAM-1, IFN- γ , IL-1 α , IL-1 β , IL-2, IL-4, IL-5, IL-6, IL-7, IL-8, IL-10, IL-12/IL-23p40, IL-13, IL-15, IL-16, IL-17A, IP-10, MCP-1, MCP-4, MDC, MIP-1 α , MIP-1 β , PIGF, SAA, TARC, Tie-2, TNF- α , TNF- β , VCAM-1, VEGF-A, VEGF-C, VEGF-D
Human	A β Peptide Panel 1 (6E10) (K15200G)	A β 38, A β 40, A β 42
Human	A β Peptide Panel 1 (4G8) (K15199G)	A β 38, A β 40, A β 42
NHP***	Cytokine 24-Plex Kit (K15058G)	Eotaxin-3, GM-CSF, IFN- γ , IL-1 β , IL-2, IL-5, IL-6, IL-7, IL-8, IL-8 (HA*), IL-10, IL-12/IL-23p40, IL-15, IL-16, IL-17A, IP-10, MCP-1, MCP-4, MDC, MIP-1 α , MIP-1 β , TARC, TNF- β , VEGF-A
NHP	Cytokine Panel 1 (K15057G)	GM-CSF, IL-5, IL-7, IL-12/IL-23p40, IL-15, IL-16, IL-17A, TNF- β , VEGF-A
NHP	Proinflammatory Panel 1 (K15056G)	IFN- γ , IL-1 β , IL-2, IL-6, IL-8, IL-10
NHP	Chemokine Panel 1 (K15055G)	Eotaxin-3, IL-8 (HA*), IP-10, MCP-1, MCP-4, MDC, MIP-1 α , MIP-1 β , TARC
Mouse	Proinflammatory Panel 1 (K15048G)	IFN- γ , IL-1 β , IL-2, IL-4, IL-5, IL-6, IL-10, IL-12p70, KC/GRO, TNF- α
Rat	Proinflammatory Panel 2 (K15059G)	IFN- γ , IL-1 β , IL-4, IL-5, IL-6, IL-10, IL-13, KC/GRO, TNF- α

* High-abundance (This assay quantitates high levels of IL-8.)

** This version of VEGF-A is unique to the Angiogenesis Panel; LLOQ = 5.00 pg/mL and ULOQ = 1,510 pg/mL.

***NHP assays recognize analytes from *Cynomolgus* and *Rhesus* monkeys.

Build Your Assay With the V-PLEX Assay Designer

The V-PLEX product line provides validated assays in customizable formats. Configure a V-PLEX assay that meets your research needs.

- Filter **preconfigured panels** by application and species. Purchase as configured or customize to fit your needs.
- Select your **analytes of interest** and order as part of a preconfigured panel or customized multiplex assay.

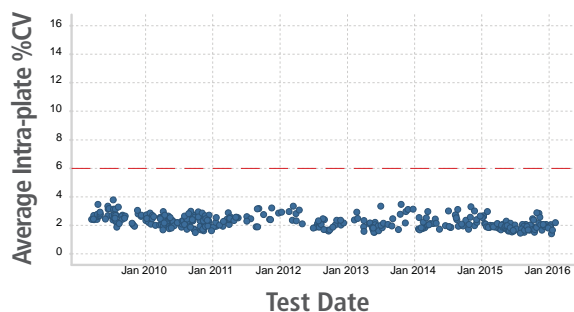
Explore your options at www.mesoscale.com/V-PLEX.

MSD GOLD for Assay Development: Quality and Reliability

MSD GOLD is a signature of our commitment to quality, consistency, and high performance in assay development. MSD GOLD plates and reagents are suitable for a wide range of applications from biomarker discovery to personalized medicine.

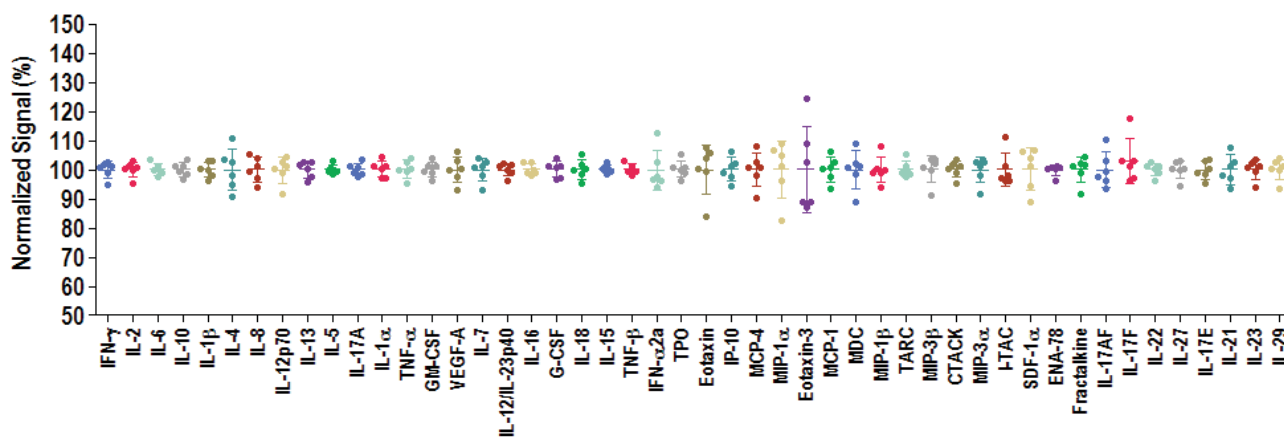
- Best suited for long term studies
- Long shelf life
- Detailed certificate of analysis
- Exceptional lot-to-lot reproducibility
- High precision
- Stringent quality control procedures

MSD GOLD Streptavidin Plates: A Six-Year Retrospective



To date, 352 lots of MSD GOLD Streptavidin plates have been analyzed, showing an average intra-plate %CV of less than 4%. QC specification is 6%, depicted by the red dashed line.

Inter-Lot Assay Reproducibility of MSD GOLD Streptavidin Plates



A total of 48 individual biomarker assays were developed on MSD GOLD Streptavidin plates. Calibrator signals (ranging from 200 to 22,000 ECL counts across all assays) were normalized to the average signal measured across six plate lots for each assay, and the normalized signal from each plate lot is shown above. Each data point represents the average of three replicates on a plate, with the error bars representing the inter-lot %CVs. All assays tested produced inter-lot %CVs of less than 10.0% with the exception of Eotaxin-3 (14.8%).

MSD GOLD Plates and Accessories

Plates (available in 1, 5, 30, 120, and 510 plate pack sizes)	Cat. No.
96-well High Bind Avidin SECTOR® Plates	L15AB
96-well High Bind Avidin QUICKPLEX® Plates	L55AB
96-well Streptavidin SECTOR Plates	L15SA
96-well Streptavidin QUICKPLEX Plates	L55SA
96-well Small Spot Streptavidin SECTOR Plates	L45SA
Labeling Reagent (available in 150 nmol and 2 µmol sizes)	
SULFO-TAG NHS-Ester	R91A0
Conjugation Packs (available in ≤ 200 µg and ≤ 1 mg sizes)	
SULFO-TAG Conjugation Pack (5 reactions)	R31AA

Additional MSD GOLD products can be found at www.mesoscale.com.



U-PLEX Assays: MSD's Most Flexible Assay Platform



The flexibility of the U-PLEX platform empowers you to make personalized multiplex assay combinations of your choice. All U-PLEX assays are demonstrated to work with serum, plasma, and cell culture supernatant samples.

U-PLEX Analytes

U-PLEX analytes are available as individual assays or as part of multiplex combinations.

Human		Human		NHP		Mouse	
Analyte (hu)	LLOD - ULOD, pg/mL	Analyte (hu)	LLOD - ULOD, pg/mL	Analyte (NHP)	LLOD - ULOD, pg/mL	Analyte (ms)	LLOD - ULOD, pg/mL
CTACK	1.8 – 4,200	I-TAC	1.5 – 5,100	IL-2	0.70 – 1,900	EPO	4.5 – 12,500
ENA-78	0.53 – 3,900	MCP-1	0.74 – 6,600	IL-2R α	10 – 55,000	GM-CSF	0.16 – 1,000
Eotaxin	3.2 – 4,800	MCP-2	0.11 – 2,000	IL-4	0.06 – 2,100	IFN- γ	0.16 – 2,900
Eotaxin-2	3.1 – 6,000	MCP-3	0.79 – 5,000	IL-5	0.24 – 4,000	IL-1 β	3.1 – 13,000
Eotaxin-3	7.3 – 21,400	MCP-4	7.5 – 3,800	IL-6	0.33 – 2,000	IL-2	1.1 – 10,900
EPO	1.8 – 20,000	M-CSF	0.29 – 2,000	IL-7	1.5 – 7,000	IL-4	0.56 – 10,000
FLT3L	0.49 – 6,000	MDC	8.4 – 20,100	IL-8	0.15 – 2,200	IL-5	0.63 – 2,800
Fractalkine	102 – 180,800	MIF	4.3 – 27,000	IL-9	0.14 – 1,500	IL-6	4.8 – 16,000
G-CSF	1.6 – 20,400	MIP-1 α	7.7 – 4,200	IL-10	0.14 – 3,700	IL-9	1.4 – 8,900
GM-CSF	0.12 – 9,400	MIP-1 β	1.5 – 1,600	IL-12/IL-23p40	2.8 – 21,000	IL-10	3.8 – 22,800
GRO- α	0.25 – 2,500	MIP-3 α	1.8 – 20,800	IL-12p70	0.54 – 5,300	IL-12/IL-23p40	1.4 – 20,400
I-309	6.8 – 3,000	MIP-3 β	0.67 – 2,000	IL-13	1.2 – 1,900	IL-12p70	48 – 89,000
IFN- α 2a	4.0 – 42,400	MIP-5	0.34 – 30,000	IL-15	0.82 – 3,000	IL-13	2.7 – 22,800
IFN- β	3.1 – 100,000	SDF-1 α	278 – 103,200	IL-16	6.6 – 21,500	IL-15	24 – 131,400
IFN- γ	1.7 – 17,000	α -Synuclein	8.0 – 6,800	IL-17A	2.3 – 23,400	IL-16	3.6 – 6,300
IL-1 α	0.98 – 5,100	TARC	0.51 – 2,200	IL-17A/F	1.8 – 18,400	IL-17A	0.3 – 2,100
IL-1 β	0.15 – 3,800	TGF- β 1	9.1 – 37,000	IL-17B	0.79 – 4,000	IL-17A/F	0.61 – 10,600
IL-1RA	1.7 – 5,000	TGF- β 2	2.5 – 38,900	IL-17C	2.2 – 20,000	IL-17C	2.3 – 45,600
IL-2	0.70 – 1,900	TGF- β 3	1.4 – 38,600	IL-17D	4.8 – 40,000	IL-17E/IL-25	1.6 – 18,900
IL-2R α	10 – 55,000	TNF- α	0.54 – 3,700	IL-17F	155 – 112,000	IL-17F	24 – 52,600
IL-3	11 – 16,000	TNF- β	0.47 – 4,300	IL-18	2.5 – 42,000	IL-21	6.5 – 40,600
IL-4	0.08 – 2,100	TPO	19 – 40,400	IL-22	0.13 – 3,400	IL-22	1.2 – 1,800
IL-5	0.24 – 4,000	TRAIL	0.66 – 10,000	IL-23	1.4 – 21,600	IL-23	4.9 – 20,400
IL-6	0.33 – 2,000	TSLP	0.20 – 10,100	IP-10	0.49 – 6,000	IL-27p28/IL-30	8.7 – 73,300
IL-7	1.5 – 7,000	VEGF-A	2.0 – 4,900	I-TAC	1.5 – 2,000	IL-31	45 – 66,300
IL-8	0.15 – 2,200	YKL-40	0.39 – 5,000	MCP-1	0.74 – 6,600	IL-33	2.2 – 36,000
IL-9	0.14 – 1,500			MCP-2	0.11 – 2,000	IP-10	0.51 – 4,900
IL-10	0.14 – 3,700			MCP-3	0.79 – 5,000	KC/GRO	0.43 – 2,400
IL-12/IL-23p40	2.8 – 21,000			MCP-4	7.5 – 3,800	MCP-1	1.4 – 1,400
IL-12p70	0.69 – 5,300			M-CSF	0.29 – 2,000	MIP-1 α	0.21 – 2,100
IL-13	3.1 – 1,900			MDC	8.4 – 20,100	MIP-1 β	13 – 30,800
IL-15	0.82 – 3,000			MIF	4.3 – 27,000	MIP-2	0.30 – 2,000
IL-16	6.6 – 21,500			MIP-1 α	7.7 – 4,200	MIP-3 α	0.10 – 2,500
IL-17A	2.6 – 23,400			MIP-1 β	1.5 – 1,600	TGF- β 1	37 – 38,900
IL-17A/F	1.84 – 18,400			MIP-3 α	0.27 – 20,800	TGF- β 2	2.5 – 39,300
IL-17B	0.79 – 4,000			MIP-3 β	0.67 – 2,000	TGF- β 3	2.5 – 40,000
IL-17C	2.2 – 20,000			MIP-5	0.34 – 30,000	TNF- α	1.3 – 6,200
IL-17D	4.8 – 40,000			SDF-1 α	17.8 – 103,200	VEGF-A	0.77 – 12,100
IL-17E/IL-25	0.58 – 9,200			TARC	0.51 – 2,200		
IL-17F	155 – 112,000			TGF- β 1	9.1 – 37,000		
IL-18	2.5 – 42,000			TGF- β 2	2.5 – 38,900		
IL-21	1.2 – 12,600			TGF- β 3	1.4 – 38,600		
IL-22	0.13 – 3,400			TNF- α	0.54 – 3,700		
IL-23	1.4 – 21,600			TNF- β	0.47 – 4,300		
IL-27	9.6 – 50,600			TPO	19 – 40,400		
IL-29/IFN- λ 1	1.2 – 11,800			TRAIL	0.66 – 10,000		
IL-31	7.3 – 11,100			VEGF-A	2.0 – 4,900		
IL-33	0.59 – 10,300			YKL-40	0.39 – 5,000		
IP-10	0.49 – 6,000						

NHP*	
Analyte (NHP)	LLOD - ULOD, pg/mL
CTACK	1.8 – 4,200
ENA-78	0.36 – 3,900
Eotaxin	0.30 – 4,800
Eotaxin-2	3.1 – 6,000
Eotaxin-3	7.3 – 21,400
FLT3L	0.49 – 6,000
Fractalkine	102 – 180,800
G-CSF	1.5 – 20,400
GM-CSF	0.12 – 9,400
GRO- α	0.25 – 2,500
I-309	6.8 – 3,000
IFN- α 2a	1.7 – 40,800
IFN- γ	1.7 – 17,000
IL-1 α	0.60 – 5,100
IL-1 β	0.15 – 3,800
IL-1RA	1.7 – 5,000

62 **NEW** U-PLEX Assays Added

*NHP assays recognize analytes from *Cynomolgus* and *Rhesus* monkeys.

U-PLEX Combinations

U-PLEX Combinations represent popular combinations of analytes, grouped into separate catalog numbers for ordering convenience. All Combinations are available in 1, 5, and 25-plate pack sizes.

Species	Name (Cat. No.)	Analytes
Human	Biomarker Group 1 71-Plex (K15081K) EXPANDED	CTACK, ENA-78, Eotaxin, Eotaxin-2, Eotaxin-3, EPO, FLT3L, Fractalkine, G-CSF, GM-CSF, GRO- α , I-309, IFN- α 2a, IFN- β , IFN- γ , IL-1 α , IL-1 β , IL-1RA, IL-2, IL-2R α , IL-3, IL-4, IL-5, IL-6, IL-7, IL-8, IL-9, IL-10, IL-12/IL-23p40, IL-12p70, IL-13, IL-15, IL-16, IL-17A, IL-17A/F, IL-17B, IL-17C, IL-17D, IL-17E/IL-25, IL-17F, IL-18, IL-21, IL-22, IL-23, IL-27, IL-29/IFN- λ 1, IL-31, IL-33, IP-10, I-TAC, MCP-1, MCP-2, MCP-3, MCP-4, M-CSF, MDC, MIF, MIP-1 α , MIP-1 β , MIP-3 α , MIP-3 β , MIP-5, SDF-1 α , TARC, TNF- α , TNF- β , TPO, TRAIL, TSLP, VEGF-A, YKL-40
	Chemokine Combo 1 (K15047K) EXPANDED	Eotaxin, Eotaxin-2, Eotaxin-3, IL-8, IP-10, MCP-1, MCP-2, MCP-3, MCP-4, MDC, MIP-1 α , MIP-1 β , TARC
	Chemokine Combo 2 (K15046K) EXPANDED	CTACK, ENA-78, Fractalkine, GRO- α , I-309, I-TAC, MIF, MIP-3 α , MIP-3 β , MIP-5, SDF-1 α
	Cytokine Combo 1 (K15045K)	GM-CSF, IL-1 α , IL-5, IL-7, IL-12/p40, IL-15, IL-16, IL-17A, TNF- β , VEGF-A
	Interferon Combo (K15094K) NEW	IFN- α 2a, IFN- β , IFN- γ , IL-29/IFN- λ 1
	Proinflammatory Combo 1 (K15049K)	IFN- γ , IL-1 β , IL-2, IL-4, IL-6, IL-8, IL-10, IL-12p70, IL-13, TNF- α
	Proinflammatory Combo 2 (K15066K)	GM-CSF, IFN- γ , IL-1 β , IL-2, IL-4, IL-6, IL-8, IL-10, IL-12p70
	Proinflammatory Combo 3 (K15052K)	IFN- γ , IL-1 β , IL-6, TNF- α
	Proinflammatory Combo 4 (K15053K)	IL-1 β , IL-6, IL-8, TNF- α
	T-Cell Combo (K15093K) NEW	GM-CSF, IFN- γ , IL-2, IL-4, IL-9, IL-10, IL-13, IL-17A, IL-17E/IL-25, IL-17F, IL-21, IL-22, MIP-3 α , TNF- α
	TGF- β Combo (K15241K) NEW	TGF- β 1, TGF- β 2, TGF- β 3
	NHP*	Biomarker Group 1 61-Plex (K15082K) EXPANDED
Chemokine Combo 1 (K15055K)		Eotaxin, Eotaxin-3, IL-8, IP-10, MCP-1, MCP-4, MDC, MIP-1 α , MIP-1 β , TARC
Cytokine Combo 1 (K15057K)		GM-CSF, IL-1 α , IL-5, IL-7, IL-12/IL-23p40, IL-15, IL-16, IL-17A, TNF- β , VEGF-A
Proinflammatory Combo 1 (K15070K)		IFN- γ , IL-1 β , IL-2, IL-4, IL-6, IL-8, IL-10, IL-12/IL-23p40, TNF- α
T-Cell Combo (K15095K) NEW		GM-CSF, IFN- γ , IL-2, IL-4, IL-9, IL-10, IL-13, IL-17A, IL-17E, IL-22, MIP-3 α , TNF- α
TGF- β Combo (K15243K) NEW		TGF- β 1, TGF- β 2, TGF- β 3
TH1/TH2 Combo (K15080K)		IFN- γ , IL-1 β , IL-2, IL-4, IL-5, IL-8, IL-10, IL-12p70, TNF- α
Mouse	Biomarker Group 1 35-Plex (K15083K) EXPANDED	EPO, GM-CSF, IFN- γ , IL-1 β , IL-2, IL-4, IL-5, IL-6, IL-9, IL-10, IL-12/IL-23p40, IL-12p70, IL-13, IL-15, IL-16, IL-17A, IL-17A/F, IL-17C, IL-17E/IL-25, IL-17F, IL-21, IL-22, IL-23, IL-27p28/IL-30, IL-31, IL-33, IP-10, KC/GRO, MCP-1, MIP-1 α , MIP-1 β , MIP-2, MIP-3 α , TNF- α , VEGF-A
	Chemokine Combo (K15099K) NEW	KC/GRO, IP-10, MCP-1, MIP-1 α , MIP-1 β , MIP-2, MIP-3 α
	T-Cell Combo (K15098K) NEW	GM-CSF, IFN- γ , IL-2, IL-4, IL-9, IL-10, IL-13, IL-17A, IL-17E/IL-25, IL-17F, IL-21, IL-22, MIP-3 α , TNF- α
	TGF- β Combo (K15242K) NEW	TGF- β 1, TGF- β 2, TGF- β 3
	TH1/TH2 Combo (K15071K)	IFN- γ , IL-1 β , IL-2, IL-4, IL-5, IL-10, IL-12p70, IL-13, KC/GRO, TNF- α
	TH17 Combo 1 (K15077K)	IL-17A, IL-17C, IL-17E, IL-17F, IL-21, IL-22, IL-23, IL-31, IL-33
	TH17 Combo 2 (K15078K)	IFN- γ , IL-1 β , IL-6, IL-17A, IL-17C, IL-17E/IL-25, IL-17F, IL-21, IL-22, TNF- α

* NHP assays recognize analytes from *Cynomolgus* and *Rhesus* monkeys.

U-PLEX Groups

U-PLEX groups represent a comprehensive menu of analytes assembled by species, abundance in matrices tested, analytical compatibility, clinical range, and expected use. Any number of assays may be selected from within a group to create personalized multiplex combinations. Up to 10 U-PLEX assays may be multiplexed on each plate for simultaneous quantitation.

Species	Name (Cat. No.)
Human	Biomarker Group 1 Assays (K15067L)
NHP	Biomarker Group 1 Assays (K15068L)
Mouse	Biomarker Group 1 Assays (K15069L)

U-PLEX Custom Assays

U-PLEX custom assays enable creation of custom multiplexes with a combination of MSD U-PLEX assays and your own analytes, using activated spots.

Species	Name (Cat. No.)
Human	Custom Biomarker Assays (K15067M)
NHP	Custom Biomarker Assays (K15068M)
Mouse	Custom Biomarker Assays (K15069M)



U-PLEX Development Packs

U-PLEX development packs allow you to perform custom multiplexing with your own analytes, with 2 to 10 activated spots per well.

Name (Cat. No.)
Development Pack, 2-Assay SECTOR Plate (K15227N)
Development Pack, 3-Assay SECTOR Plate (K15228N)
Development Pack, 4-Assay SECTOR Plate (K15229N)
Development Pack, 5-Assay SECTOR Plate (K15230N)
Development Pack, 6-Assay SECTOR Plate (K15231N)
Development Pack, 7-Assay SECTOR Plate (K15232N)
Development Pack, 8-Assay SECTOR Plate (K15233N)
Development Pack, 9-Assay SECTOR Plate (K15234N)
Development Pack, 10-Assay SECTOR Plate (K15235N)

U-PLEX Training Options

Comprehensive training options deliver the confidence and skills needed to perform U-PLEX assays on your own. Options range from instructor-led training to self-directed demonstration kits.

Name (Cat. No.)	Description
Assay Development Training (S00AD-1)	Assay development guidance from our expert field application scientists at your site; includes U-PLEX Training Pack
Training Pack (4-Assay, 5-Plate Pack Size) (K15237K-2)	IL-1 β , IL-6, IL-8, TNF- α
Training Pack (10-Assay, 5-Plate Pack Size) (K15236K-2)	IL-1 β , IL-6, IL-8, TNF- α and 6 open spots for training purposes
Proinflammatory (hu) Demonstration Kit (1-Plate Pack Size) (K15064K-1)	IL-1 β , IL-6, IL-8, TNF- α

Customize Your Assay With the U-PLEX Assay Designer

The U-PLEX platform allows you to create custom multiplex assays quickly in your own lab from a selection of MSD assays, your own analytes, or a combination of both.

- **Step 1.** Choose your species of interest to see available assays.
- **Step 2.** Select desired assays from the U-PLEX assay list.
- **Step 3.** Select the number of open spots required for your own analytes.
- **Step 4.** Select your plate quantity.

Explore your options at www.mesoscale.com/U-PLEX.

Standard Assays: MSD's Broadest Menu

Standard assays offer a broad menu for basic research to advanced disease studies requiring greater consistency, sensitivity, and dynamic range than provided by western blots and traditional ELISAs. Standard singleplex and multiplex assays are compatible with a wide range of sample matrices providing the ability to analyze protein levels from multiple sample types with a single assay.

For many analytes, we offer multiple assay formats, compatible with a wide variety of sample types and with varying levels of sensitivity to fit diverse research needs. To facilitate targeted disease research, we have assembled a variety of disease-specific panels that include the most widely-studied analytes. Explore our website to find the right assays for you.

	Secreted Biomarker Assays	Intracellular Biomarker Assays
Description and common usage	Inflammation, Cytokine Research, Immunology	Cell Signaling Research, Phosphorylation States, Neurobiological Applications
Sample types*	Serum, Plasma, Urine, Cell Culture Supernatant	Cell Lysates, Cell Culture Supernatant, Cerebral Spinal Fluid
Sample volume required*	As little as 25 µL per well	As little as 0.25 µg cell lysate per well
Format	Available in both singleplex and multiplex formats; 96 and 384 well options.	
Typical assay run time	Standard assay workflow is approximately 3 hours. Plate read time is 90 seconds per plate.	

*Please consult the product insert for specific information about each analyte of interest.

Standard Analytes

H=Human M=Mouse R=Rat P=Non-human Primate B=Bovine C=Canine

Analyte	Species Homology
4E-BP1	H, M
4E-BP1 (pT37/46)	H, M
A2M	H
Adiponectin	H, M, R
Akt	H, M, P, R
Akt (pS473)	H, M, P, R
Akt (pT308)	H, M
Angiopoietin 1	H
Angiopoietin 2	H
APP	H
Aurora A	H
Aurora A (pT288)	H
Aβ38	H
Aβ40	H
Aβ42	H
B2M	R
BAD	H, P
BAD (pS112)	H, P
BNP	R
cAMP	H, M, R
Cancer Antigen 125	H
Caspase-3	H
Caspase-3 (p20/p17) (cleaved)	H
CHO (HCP)	H

Analyte	Species Homology
CHOP	H, M, R
c-Jun	H, M, R
c-Kit	H
Clusterin	R
c-Peptide	M, R
CTACK (CCL27)	H
DJ-1/PARK7	H
E-Cadherin	H
EGFR	H
EGFR (pY1173)	H
eIF4E	H
eIF4E (pS209)	H
Eotaxin-2 (CCL24)	H
Eotaxin-3 (CCL26)	H
EPO	H, M, R
ErbB2	H
ErbB2 (pY1248)	H
ERK-1/2	H, M, R
ERK-1/2 (pT202/pY204) (pT185/pY187)	H, M, R
E-Selectin	H
FABP3	H
Factor VII	H
Fas	H
FasL	H

Analyte	Species Homology
FGF (basic)	H
Flt-1/VEGFR1	H
FOXO3a	H, M
FOXO3a (pT32)	H, M, R
Fractalkine (CX3CL1)	H
FRS2 (pY196)	H, M
FRS2 (pY436)	H, M
FSH	H
GAPDH	H, P
G-CSF	H
GIP	H
GLP-1 (Active)	C, H, M, P, R
GLP-1 (Total)	C, H, M, P, R
Active GLP-1 (7-36) amide	H, M, R
GLP-1 (x-36) amide	H, M, R
Glucagon	H, M, R
GM-CSF	H, M, R
GSK-3α (pS21)	H
GSK-3β	H, M, R
GSK-3β (pS9)	H, M, R
HGF	H
HIF-1α	H, M, R

Analyte	Species Homology
Histone H3 (pS10)	H, M, R
HSP27	H
HSP27 (pS78)	H
HSP27 (pS82)	H
HSP70	H
I-309 (CCL1)	H
ICAM-3	H
IFN- α 2a	H
IFN- β	H
IFN- γ	H, M, R
IgA	H, P
IGF-1R (pY)	H
IgG	H, P
IgM	H, P
IL-1 α	R
IL-1 β	H, M, R
IL-2	H, M
IL-4	H, M, R
IL-5	H, M, R
IL-6	H, M, R
IL-6R	H
IL-8 (CXCL8)	H
IL-10	H, M
IL-12	H, M
IL-12/IL-23p40	H, M
IL-12p70	H, M
IL-17A	H, M
IL-17B	H
IL-17D	H
IL-18	H
Insulin	H, M, R
IP-10 (CXCL10)	H
IRE-1 α (CXCL11)	H, M, R
IRS-1	H
I-TAC	H
JNK	H
KC/GRO (CXCL1)	M, R
KIM-1/TIM-1/HAVCR	H, R
LBP	H
Leptin	H, M, R
MCP-1 (CCL2)	H, M, R
MCP-2 (CCL8)	H
M-CSF	H
MDC (CCL22)	H
MDM2	H
MDM2 (ubiquitinated)	H, M, R
MDM2 - p53 complex	H
MEK 1/2	H, M, R

Analyte	Species Homology
MEK 1/2 (pS217/pS221)	H, M, R
MEK2	H, M, R
Met	H
Met (pY1349)	H
MIF	H
MIP-1 β (CCL4)	H
MIP-3 α (CCL20)	H, M, R
MIP-3 β (CCL19)	H
MIP-4 (CCL18)	H
MIP-5 (CCL15)	H
MMP-1	H
MMP-2	H
MMP-3	H
MMP-9	H
MMP-10	H
mTOR (pS2488)	H, M, R
Myeloperoxidase (MPO)	H
NF κ B (pS468)	H, M, R
NF κ B (pS536)	H, M, R
NT-proANP	R
NT-proBNP	H, R
Osteocalcin	H
Osteonectin	H
Osteopontin	H
Osteoprotegerin	H
p38	H, M, P, R
p38 (pT180/pY182)	H, M, R
p53	H, M, R
p53 (pS15)	H, M, R
p53 (ubiquitinated)	H, M, R
p62 (SQSTM1)	H, M, R
p70S6K	H, M, R
p70S6K (pT389)	H, M, R
p70S6K (pT421/pS424)	H, M, R
PARP	H
P-Cadherin	H
pDGFR- β (pY751)	H, M
PERK	H, M, R
PERK (pT980)	R
PIGF	H
Pleckstrin (pS)	H, M, R
PRAS40	H
PRAS40 (pT246)	H, M, R
Prolactin	H
Protein A	H
PSD-95	H, M, R
E-Selectin	H
P-Selectin	H

Analyte	Species Homology
PYY	H
RANTES (CCL5)	H, M
Rb	H
Rb (pS608)	H
Rb (pS780)	H
RBP4	H
Resistin	H, M, R
S6RP	H, M, P, R
S6RP (pS235/236)	H, M, P, R
S6RP (pS240/244)	H, M, R
Sclerostin	H
Smad1 (pS463/465)	H, M
SRC3	H
STAT3	H, M, R
STAT3 (pY705)	H, M, R
STAT4	H, M, R
STAT4 (pY693)	H, M, R
STAT5a/b	H, M, R
STAT5a/b (pY694)	H, M, R
α -Synuclein	H
Tau	B, H, M
Tau (pT231)	H, M
Tenascin C	H
TGF- β 1	H
Thrombomodulin	H
Thrombopoietin (TPO)	H
TIMP-1	H
TNF- α	H, M
TNF-RI	H
TNF-RII	H
TRAIL	H
sTroponin I (sTnl)	R
Troponin I (TNNI1)	R
Troponin ITC Complex	R
VASP	H
VASP (pS157)	H
VCAM-1	H
VEGF-A	H, M, R
VEGF-R2	H
VEGFR2/KDR	H
Wnt3a	H, M, R
XBP-1	H, M, R
YKL-40	H

Standard Multiplex Panels

Neurodegeneration Panels
sAPP α , sAPP β
Tau (pT231)/Total Tau

Metabolic Panels
Adiponectin, Resistin*
Leptin, Insulin
Glucagon, Insulin
Active GLP-1 (7-36) amide, Insulin, Glucagon
Active GLP-1, Insulin, Glucagon
GLP-1 (7-36) amide, Insulin, Glucagon
Active GLP-1, Insulin, Glucagon, Leptin
Active GLP-1 (7-36) amide, Insulin, Glucagon, Leptin

*Custom multiplex

Cytokine/Inflammation Panels
Human TH1-TH2 10-Plex: IFN- γ , IL-1 β , IL-2, IL-4, IL-5, IL-8, IL-10, IL-12p70, IL-13, TNF- α
Human TH1-TH2 7-Plex: IFN- γ , IL-2, IL-4, IL-5, IL-10, IL-12p70, IL-13
Mouse TH1-TH2 9-Plex: IFN- γ , IL-1 β , IL-2, IL-4, IL-5, KC/GRO, IL-10, IL-12 total, TNF- α
Human Proinflammatory 9-Plex: GM-CSF, IFN- γ , IL-1 β , IL-2, IL-6, IL-8, IL-10, IL-12p70, TNF- α
Human Proinflammatory 7-Plex: IFN- γ , IL-1 β , IL-6, IL-8, IL-10, IL-12p70, TNF- α
Human Proinflammatory I 4-Plex: IFN- γ , IL-1 β , IL-6, TNF- α
Human Proinflammatory II 4-Plex: IL-1 β , IL-6, IL-8, TNF- α
Mouse Proinflammatory 7-Plex: IFN- γ , IL-1 β , IL-6, IL-10, IL-12p70, KC/GRO, TNF- α
Canine Proinflammatory Panel 3: IL-2, IL-6, IL-8, TNF- α
Inflammation Panel 1 (rat): NGAL, TSP-1, TIMP-1, MCP-1
Inflammation Panel 3 (cyno): MCP-1, NGAL, TIMP-1
Human MMP 2-Plex Ultra-Sensitive Kit: MMP-2, MMP-10
Human MMP 3-Plex Ultra-Sensitive Kit: MMP-1, MMP-3, MMP-9

Isotyping Panels
Isotyping Panel 1 (Human/NHP): IgA, IgG, IgM
Mouse Isotyping Panel 1: IgA, IgG1, IgG2a, IgG2b, IgG3, IgM

Toxicology/Injury Panels
Acute Phase Protein Panel 1 (rat): A2M, AGP
Inflammation Panel 1 (rat): NGAL, TSP-1, TIMP-1, MCP-1
Inflammation Panel 3 (cyno): MCP-1, NGAL, TIMP-1
Argutus AKI Test™ (rat): α GST, GSTYb1, RPA-1
Cardiac Injury Panel 2 (rat): cTnI, cTnT, FABP3
Cardiac Injury Panel 3 (rat): cTnI, cTnT, FABP3, Myl3
Muscle Injury Panel 1 (rat): cTnI, cTnT, sTnI, FABP3, Myl3
Muscle Injury Panel 2 (rat): TIMP-1, CK
Muscle Injury Panel 3 (mouse): cTnI, FABP3, Myl3, sTnI
Liver Injury Panel 1 (rat): Arginase-1, α GST
Kidney Injury Panel 1 (rat): Albumin, TIM-1, N-GAL, Osteopontin
Kidney Injury Panel 3 (human): α GST, Calbindin, Clusterin, KIM-1, Osteoactivin, TFF3, VEGF-A
Kidney Injury Panel 5 (human): Albumin, B2M, Cystatin C, EGF, NGAL, Osteopontin, Uromodulin
Vascular Injury Panel I: sICAM-3, E-Selectin, P-Selectin, Thrombomodulin
Human Hypoxia Panel: EPO, VEGF-A
Mouse/Rat Hypoxia Panel: EPO, VEGF-A
Growth Factor Panel I: bFGF, VEGF-A, sFlt-1, PlGF
Growth Factor Panel II: c-Kit, KDR
Human Bone Panel I: ALP, Sclerostin, Osteoprotegerin
Human Bone Panel II: Osteocalcin, Osteonectin, Osteopontin

Control Packs
Akt Control Pack 1
Angiogenesis Control Pack 1
Chemokine Panel 1 (human) Control Pack
Cytokine Panel 1 (human) Control Pack
Neurodegeneration Control Pack 1
Proinflammatory Panel 1 (mouse) Control Pack
Proinflammatory Panel 1 (human) Control Pack
Proinflammatory Panel 1 (rat) Control Pack
Vascular Injury Control Pack 1

Intracellular Signaling Panels

Akt Signaling Panel (Phosphoprotein) (pAkt, p70S6K, pGSK-3β)
Akt Signaling Panel (Total Protein) (Akt, p70S6K, GSK-3β)
Akt Signaling Panel II (Phosphoprotein) (pAkt, p70S6K, pGSK-3β, pS6RP)
Apoptosis Panel (pp53, p53, Cl. Caspase-3, Cl. PARP)
EGFR Family Panel (pEGFR, pErbB2, pIGF-1R)
ERK-STAT3 Cascade Panel (pERK1/2, pMEK1/2, pSTAT3)
Insulin Signaling Panel (Phosphoprotein) (pIR, pIGF-1R, pIRS-1)
Insulin Signaling Panel (Total Protein) (IR, IGF-1R, IRS-1)
MAP Kinase Panel (Phosphoprotein) (pERK1/2, pJNK, p38)
MAP Kinase Panel (Total Protein) (ERK1/2, JNK, p38)
Phospho-STAT Panel (pSTAT3, pSTAT4, pSTAT5a,b)

Activated/Total Panels

Akt pS473/Total
BAD pS112/Total
Caspase-3 (Cl. p20/p17)/Total
c-Kit pY721/Total
EGFR pY1173/Total
eIF4E pS209/Total
ErbB2 pY1248/Total
ERK1/2 (pT202/pY204)/(pT185/pY187)/Total
GSK-3β pS9/Total
HSP27 pS78/Total
HSP27 pS82/Total
JNK (pT183/pY185)/Total
MEK1/2 (pS217/221)/Total
Met pY1349/Total
MDM2 Ub/Total
mTOR pS2448/Total
p38 (pT180/pY182)/Total
p53 pS15/Total
p53 Ub/Total
p70S6K (pT421/pS424)/Total
Rb pS608/Total
Rb pS780/Total
S6RP (pS240/244)/Total
STAT5a,b pY694/Total
Tau pT231/Total

The following assays are not in our catalog but are available upon request. Contact Customer Service for more information.

Aβ (Total)	HSP27 (pS82)
AFP	IR
AGP	Luteinizing Hormone (LH)
AMPK alpha 1	MCP-3
Apolipoprotein A1	MIG
Apolipoprotein C3	MMP-8
Arginase-1	mTOR
BCAR1 (pT410)	β-NGF
BDNF	p21
Calprotectin	PDHE1a (pS293)
CA 15.3	PEDF/Serpin F1
CEA	PAI-1
Chk1 (pS296)	PSA
CINC-1	RAGE
CINC-2	T3
CINC-3	T4
CKMB	Tau (pS202)
C-peptide	Tau (pS262)
EGFR (pY1068)	Tau (pS396)
eIF2α (pS51)	Tau (pT181)
Endoglin	TIMP-2
ErbB3/HER3 (pY)	cTroponin T (cTnT)
FGF (acidic)	Tuberin (pT1462)
Ghrelin (active)	TWEAK
GSK-3α	VEGFR-2 (pY1175)

MSD Services and Custom Assay Capabilities: Tailor-Made to Meet Your Needs

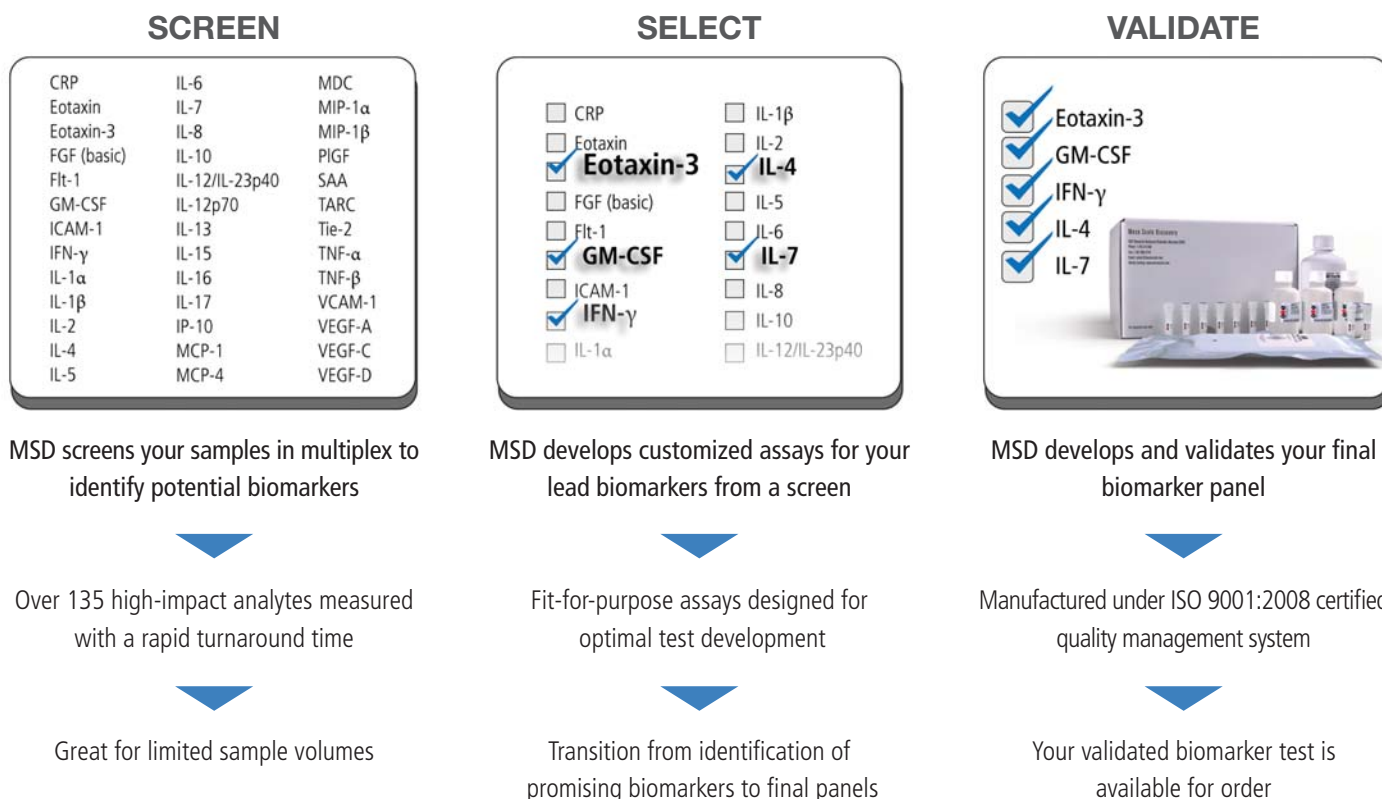
With over 20 years of experience in developing immunoassays of unsurpassed quality and performance, MSD's personalized services provide you with the tools to precisely measure biomarkers and meet the requirements of each unique project.

As your partner, our specialists will work with you to provide customized solutions in the following areas:

- Biomarker screens with your samples from a selection of over 135 assays
- Development and validation of singleplex and multiplex assays
- Creation of custom configurations of MSD multiplexes
- Conjugation of antibodies, proteins, peptides, and oligonucleotides with biotin or SULFO-TAG
- Custom printing of MSD single-spot and multi-spot plates with your biomarkers of choice

Biomarker Screening and Assay Development

Whether you require a biomarker screen or the development of a validated kit for lead biomarkers, MSD will tailor a custom service package for you. With our knowledge in developing and multiplexing high-quality commercial immunoassays, MSD can accelerate your biomarker program from early stage discovery to the production of fully validated kits or components.



For more information, contact us at assayservices@mesoscale.com.

S-PLEX Sample-Testing Services: MSD's Most Sensitive Assay Platform



S-PLEX assays achieve femtogram/mL sensitivity with the precision and reliability you have come to expect from MSD. We offer S-PLEX sample-testing services to clients who need even higher sensitivity than currently available from MSD. Now you can detect and quantitate very low abundance proteins in your samples with the confidence that you are specifically measuring your protein of interest. Our experts will work with you to understand your sample-testing needs and develop a plan that is right for you.

S-PLEX Assays Available for Sample-Testing Services

Target Analyte (hu)	Limit of Detection (LOD) (fg/mL)	Lower Limit of Quantitation (LLOQ) (fg/mL)	Upper Limit of Quantitation (ULOQ) (fg/mL)
Cardiac Troponin I	25	125	480,000
IFN- γ	2.5	14	56,000
IL-2	0.8	1.9	22,000
IL-4	0.7	3.6	10,000
IL-6	0.7	3.1	12,000
IL-10	0.7	2.3	25,000
IL-17A	12	42	160,000
PSA (complexed)	6.3	17	72,000
PSA (free)	141	480	240,000
Tau	6.2	21	160,000
TNF- α	6.7	18	120,000
TSLP	1.5	6.0	20,000

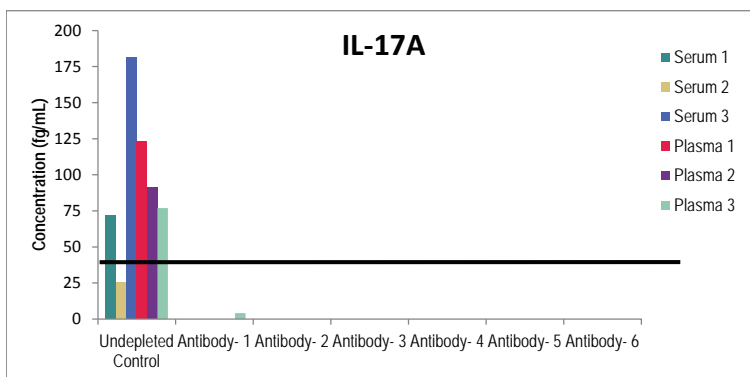
S-PLEX assays currently in development for sample-testing services:

- GFAP
- HIVp24
- IL-1 β
- IL-5
- IL-13
- IL-21
- IL-25
- Phospho-Tau

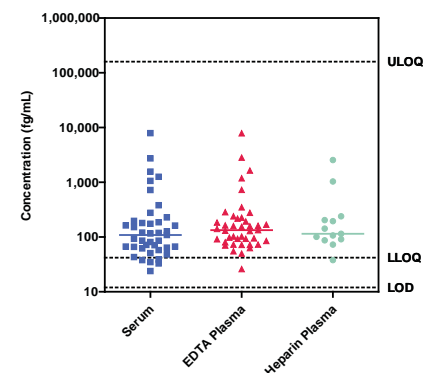
Sensitivity You Can Trust

S-PLEX technology utilizes a novel process to generate sensitivity that is up to 1000 times greater than ELISAs. The assays detect a few hundred molecules per sample with extremely high specificity. Target depletion studies were used to validate the specificity of each S-PLEX assay. Data for IL-17A are shown below.

S-PLEX IL-17A Specificity (A)



IL-17A Levels in Normal Samples (B)



(A) Six unique IL-17A specific antibodies were selected to deplete IL-17A from six normal samples (three serum and three plasma samples). Data are presented relative to the undepleted control samples. IL-17A depletion was 95% or greater in the six samples tested. (B) IL-17A levels were measured in 42 serum, 42 EDTA plasma, and 12 heparin plasma samples from normal individuals.

Customer Support

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The 6E10, 4G8, 12F4 antibodies used in MSD A β assays, the thrombomodulin antibody used in MSD Thrombomodulin and Vascular Injury Panel I assays, the DJ-1 protein used in the MSD DJ-1/PARK7 assay, and the detection antibody used in MSD Tau assay are supplied by Covance Research Products, Inc.

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