

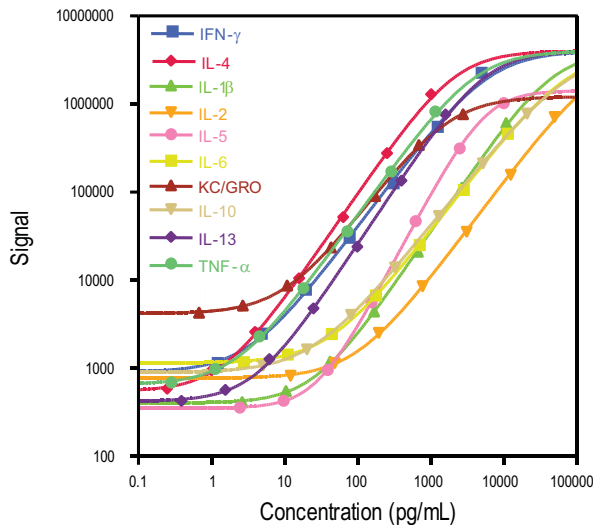


# Rat Cytokine Assays

For use with cell culture supernatants, serum, plasma, and urine

## V-PLEX™ New from Meso Scale Discovery® Proinflammatory Panel 1 (rat) Kit

- Validated across multiple lots
- Volume conserved for precious samples
- Value added, reduced cost
- Custom multiplexes
- A la carte menu
- Simple, fast, flexible



	LLOD (pg/mL)		
	MSD V-PLEX	Bead Based	ELISA
IFN-γ	0.65	15.30	137
IL-1β	6.92	7.00	16.6
IL-2	19.6	14.0	8.72
IL-4	0.69	9.40	1.84
IL-5	14.1	16.5	N/A
IL-6	13.8	86.2	71.3
KC/GRO	1.04	2.60	N/A
IL-10	16.4	6.90	11.6
IL-13	1.97	8.50	6.99
TNF-α	0.72	7.20	19.5

V-PLEX™ assays provide valuable benefits:

- Unsurpassed sensitivity
- Lot-to-lot reproducibility
- Wide dynamic range
- Matrix flexibility
- Qualified critical reagents
- Longer shelf life
- Simple Protocol
- Less Sample

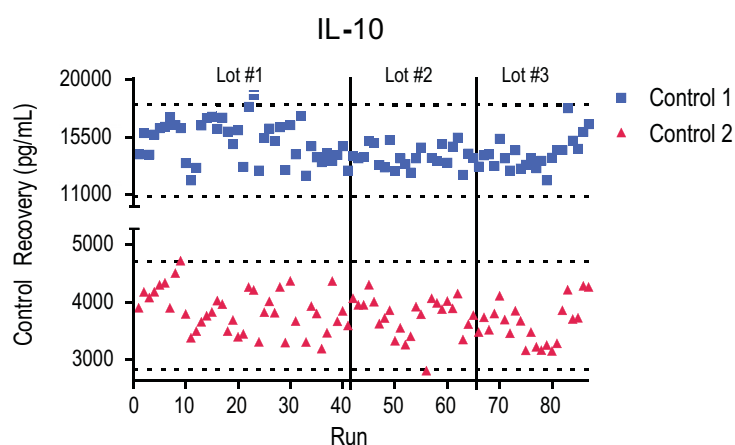
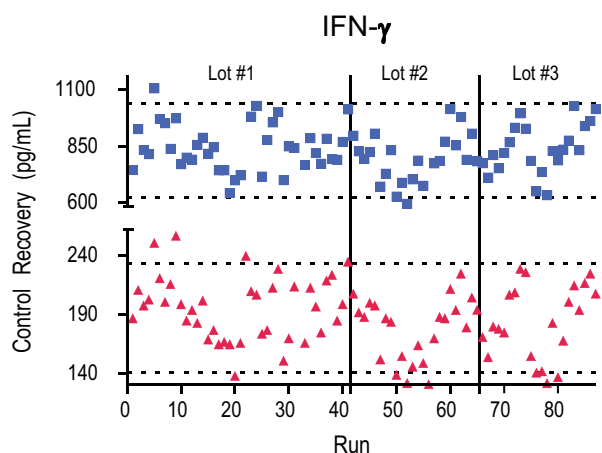
	MSD V-PLEX	Bead Based	ELISA
Protocol Time	4 hrs	5 hrs - O/N	4.5 - 5 hrs
Read Time	1 - 3 min	20 - 60 min	1 - 10 min
Sample Volume	12.5 - 25 µL	12.5 - 50 µL	50 - 400 µL

For Research Use Only. Not for use in diagnostic procedures.



	Median LLOD (pg/mL)	Average Conc. (ng/mL)	Average Intra-run %CV	Inter-lot %CV
IFN- $\gamma$	0.65	867	4.98	5.1
		200	5.22	6.1
IL-1 $\beta$	6.92	3643	2.72	9.2
		959	2.65	16.4
IL-2	19.6	29385	3.36	12.0
		5151	5.01	12.0
IL-4	0.69	779	2.78	8.1
		166	2.58	4.5
IL-5	14.1	6531	3.67	6.7
		1257	3.78	9.5

	Median LLOD (pg/mL)	Average Conc. (ng/mL)	Average Intra-run %CV	Inter-lot %CV
IL-6	13.8	7187	2.57	5.1
KC/GRO	1.04	2195	3.23	6.1
		1995	3.20	9.2
IL-10	16.4	691	2.04	16.4
		15214	3.64	12.0
IL-13	1.97	3893	3.60	12.0
		966	2.90	8.1
TNF- $\alpha$	0.72	122	2.98	4.5
		553	2.42	6.7
		108	2.32	9.5

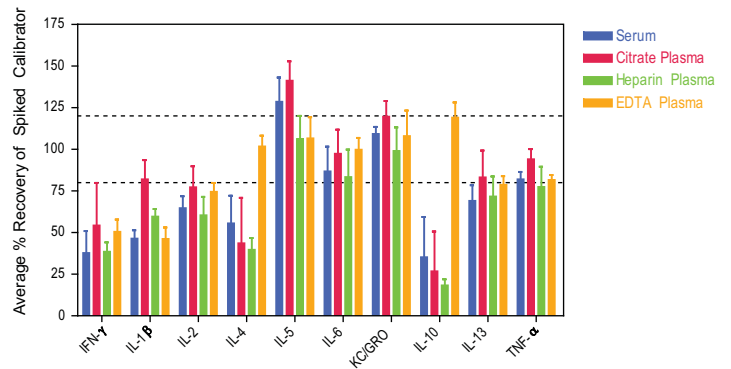
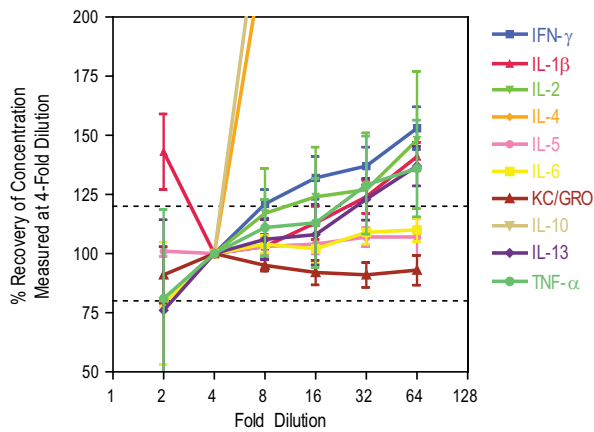


## Sensitivity, Precision, and Accuracy

The lower limit of detection (LLOD) is a calculated concentration corresponding to a signal 2.5 standard deviations above the background (zero calibrator). The LLOD shown above was calculated based on 42 runs.

Controls were made by spiking calibrator into rat serum at 2 levels throughout the range of the assay. Analyte levels were measured using a minimum of 2 replicates on 41 runs over 4 months.

A complete set of data for each analyte is provided in the product insert available at [www.mesoscale.com](http://www.mesoscale.com).

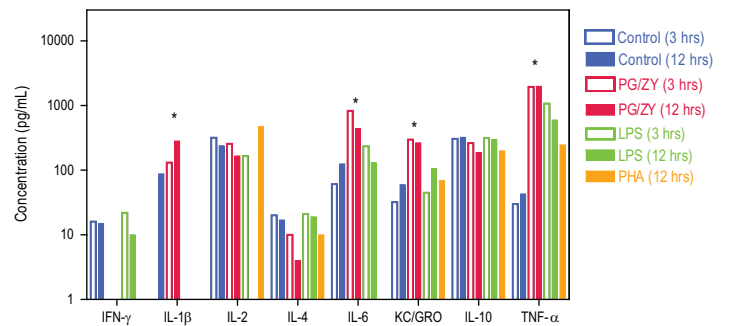
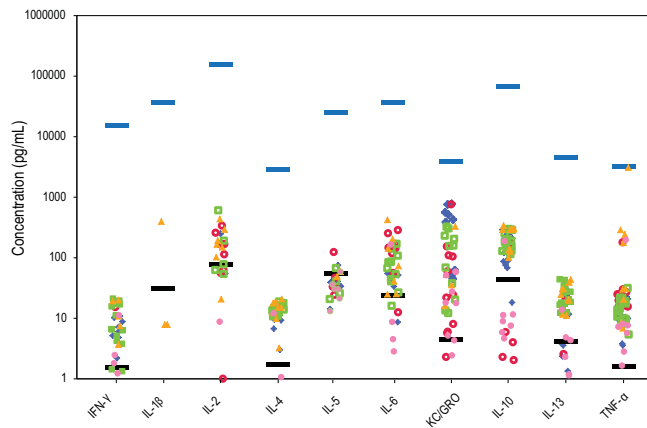


## Dilutional Linearity

Normal rat serum samples (N=6) were spiked with recombinant calibrators and diluted 2-fold, 4-fold, 8-fold, 16-fold, 32-fold, and 64-fold before testing. Samples were normalized to the concentration measured at 4-fold dilution.

## Matrix Recovery

Spike and recovery measurements of different sample types throughout the quantifiable ranges of the assays were evaluated. Samples were spiked with calibrators at 3 levels, then diluted 4-fold.



## Sample Testing

18 serum, 16 EDTA plasma, 16 heparin plasma, 10 citrate plasma, and 11 urine samples were run at a 4-fold dilution. The upper limit of quantification (ULOQ) is shown in solid blue lines for each assay. The black line represents the median LLOD established during the analytical validation. The ULLOQ and LLOD values are multiplied by 4-fold to reflect the 4-fold sample dilution.

## Stimulated Whole Blood

Freshly collected, normal, pooled, rat whole blood was incubated at 37°C for different time periods either with lipopolysaccharide (LPS), phytohaemagglutinin (PHA), or with peptidoglycan (PG) and zymosan (ZY); plasma was isolated at the end of incubations. The dilution-adjusted concentrations (pg/mL) are shown here. Assays that showed a significant difference in analyte level with prolonged stimulation are identified with an asterisk.



## Proinflammatory Panel 1 (rat) Catalog Numbers

	V-PLEX			V-PLEX Plus		
	1 plate	5 plates	25 plates	1 plate	5 plates	25 plates
Proinflammatory Panel 1 (rat) (IFN- $\gamma$ , IL-1 $\beta$ , IL-2, IL-4, IL-5, IL-6, IL-10, IL-13, KC/GRO, TNF- $\alpha$ )	K15044D-1	K15044D-2	K15044D-4	K15044G-1	K15044G-2	K15044G-4

## Single Assay Catalog Numbers

	V-PLEX			V-PLEX Plus		
	1 plate	5 plates	25 plates	1 plate	5 plates	25 plates
Rat IFN- $\gamma$	K153QOD-1	K153QOD-2	K153QOD-4	K153QOG-1	K153QOG-2	K153QOG-4
Rat IL-1 $\beta$	K153QPD-1	K153QPD-2	K153QPD-4	K153QPG-1	K153QPG-2	K153QPG-4
Rat IL-2	K153QQD-1	K153QQD-2	K153QQD-4	K153QQG-1	K153QQG-2	K153QQG-4
Rat IL-4	K153QRD-1	K153QRD-2	K153QRD-4	K153QRG-1	K153QRG-2	K153QRG-4
Rat IL-5	K153QSD-1	K153QSD-2	K153QSD-4	K153QSG-1	K153QSG-2	K153QSG-4
Rat IL-6	K153QXD-1	K153QXD-2	K153QXD-4	K153QXG-1	K153QXG-2	K153QXG-4
Rat KC/GRO	K153QTD-1	K153QTD-2	K153QTD-4	K153QTG-1	K153QTG-2	K153QTG-4
Rat IL-10	K153QUD-1	K153QUD-2	K153QUD-4	K153QUG-1	K153QUG-2	K153QUG-4
Rat IL-13	K153ODD-1	K153ODD-2	K153ODD-4	K153ODG-1	K153ODG-2	K153ODG-4
Rat TNF- $\alpha$	K153QWD-1	K153QWD-2	K153QWD-4	K153QWG-1	K153QWG-2	K153QWG-4

### V-PLEX kits include:

- Blended calibrator
- Individual detection antibodies
- Diluents
- Comprehensive product insert
- Certificate of Analysis

### V-PLEX Plus kits include:

- Blended calibrator
- Individual detection antibodies
- Diluents
- Comprehensive product insert
- Certificate of Analysis
- Controls
- Wash Buffer
- Plate Seals

Custom combinations of the assays above may be ordered online at [www.mesoscale.com/V-PLEX](http://www.mesoscale.com/V-PLEX).

Phone: 1-240-314-2795 . Fax: 1-301-990-2776

Email: [customerservice@mesoscale.com](mailto:customerservice@mesoscale.com)

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