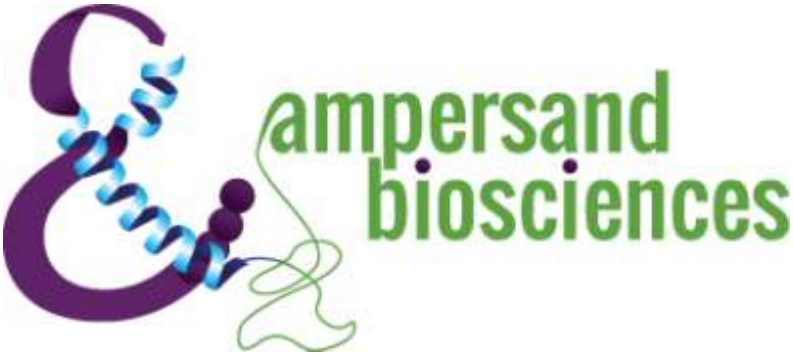
Human Cytokine Panel 1

Kit # HU118-K

Validation Report Version 1.0



Prepared by: Kristi Marshall _____ Date May 29, 2025

Kristi Marshall (May 29, 2025 13:55 EDT)

Reviewed by: Laura Stephen _____ Date 29/05/25

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1. Assay Description:

A multiplex assay was developed and validated for the measurement of Human IFNY, IL-10, IL-13, IL-15, IL-18, IL-1α, IL-1β, IL-2, IL-4, IL-5, IL-6, IL-7, IL-8 and TNFα. The kit is microsphere-based and consists of using antigen-specific antibodies covalently coupled to magnetic Luminex beads and biotinylated detection antibodies in a capture-sandwich format. All incubations take place at room temperature in a 96-well plate. 30 µL of standard, controls or sample are added to the appropriate wells, followed by 10 µL of blocker and 10 µL of multiplexed capture-antibody microspheres. The plate is incubated for 1 hour at ambient temperature on a plate shaker. After washing 3 times, 40µL of detection antibodies are added to each well, thoroughly mixed, and incubated 1 hour at ambient temperature on a plate shaker. The Streptavidin-Phycoerythrin conjugate (SA-PE) working solution is then added to the plate and incubated for 30 minutes. The plate is then washed 3 times and the beads are resuspended in 100 µL of wash buffer. After shaking on a plate shaker for 10 minutes, the plate is then analyzed on the Luminex 200 Analyzer.

2. Control and Sample Description:

Control	Description
Control 1	Normal Human Serum (20%) spiked with low levels of Recombinant IFNY, IL-10, IL-13, IL-15, IL-18, IL-1α, IL-1β, IL-2, IL-4, IL-5, IL-6, IL-7, IL-8 and TNFα.
Control 2	Normal Human Serum (20%) spiked with mid levels of Recombinant IFNY, IL-10, IL-13, IL-15, IL-18, IL-1α, IL-1β, IL-2, IL-4, IL-5, IL-6, IL-7, IL-8 and TNFα.

Sample	Description
Serum 1	Normal Human Serum spiked with Recombinant IFNY, IL-10, IL-13, IL-15, IL-1α, IL-1β, IL-2, IL-4, IL-5, IL-6, IL-7, IL-8 and TNFα.
Serum 2	Normal Human Serum spiked with Recombinant IFNY, IL-10, IL-13, IL-15, IL-18, IL-1α, IL-1β, IL-2, IL-4, IL-5, IL-6, IL-7, IL-8 and TNFα.
Plasma 1	Normal Human Plasma spiked with Recombinant IFNY, IL-10, IL-13, IL-15, IL-1α, IL-1β, IL-2, IL-4, IL-5, IL-6, IL-7, IL-8 and TNFα.
Plasma 2	Normal Human Plasma spiked with Recombinant IFNY, IL-10, IL-13, IL-15, IL-18, IL-1α, IL-1β, IL-2, IL-4, IL-5, IL-6, IL-7, IL-8 and TNFα.

3. LLOQ, LDD and Curves:

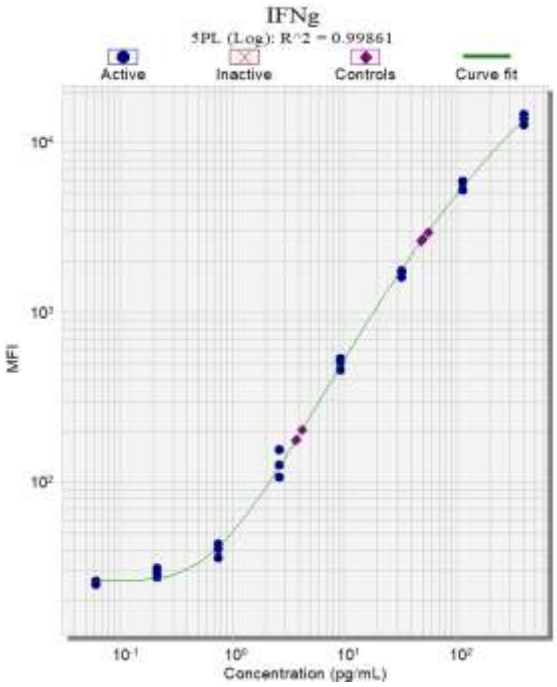
LDD: MFI (Median Fluorescent Intensity) for 8 replicates of the standard curve diluent was averaged and two (2) standard deviations added. This value was calculated to concentration off the standard curve.

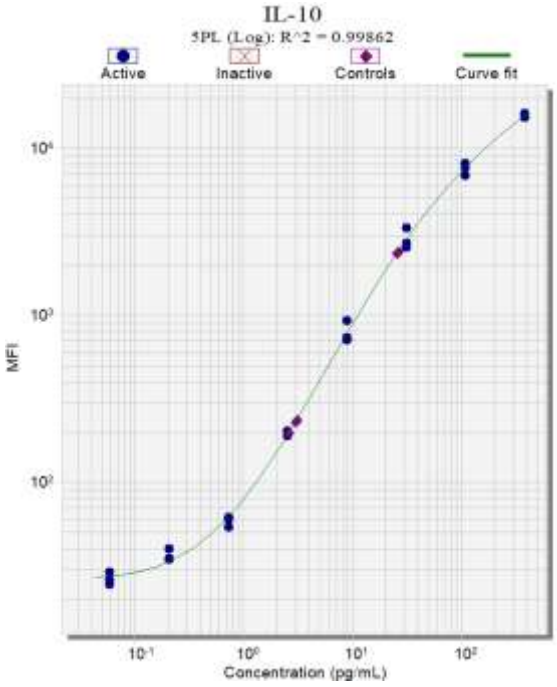
LLOQ: LLOQ was assessed by diluting a low serum sample for 8, 2-fold dilutions in duplicate. The LLOQ represents the value at which 30% CV was attained, with linearity with 70-130%. If that value calculates lower than the LOD, then the LLOQ value is equal to the LOD.

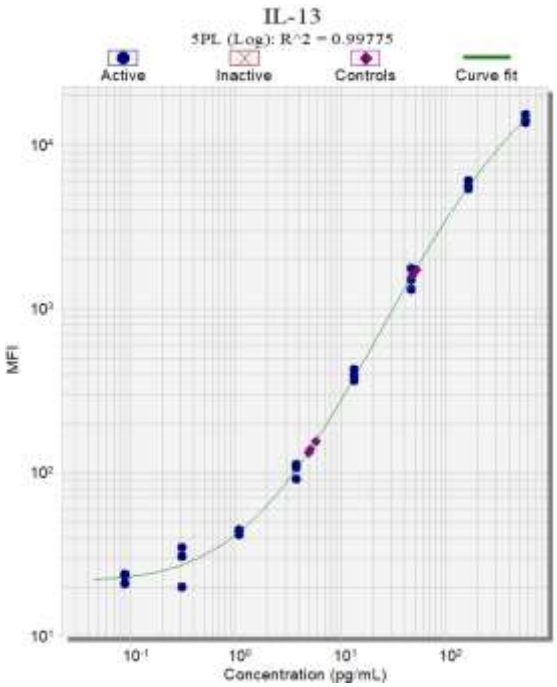
		S1	S8	LDD	LLOQ
IFNγ	**pg/ml**	0.062	400	0.25	0.76
IL-10	**pg/ml**	0.059	380	0.15	0.41
IL-13	**pg/ml**	0.089	570	0.76	1.4
IL-15	**pg/ml**	0.16	1000	0.86	1.5
IL-18	**pg/ml**	0.47	3000	0.79	3.8
IL-1α	**pg/ml**	0.12	750	0.19	0.41
IL-1β	**pg/ml**	0.11	700	0.15	0.30
IL-2	**pg/ml**	0.50	3200	0.87	2.9
IL-4	**pg/ml**	0.11	700	0.29	0.83
IL-5	**pg/ml**	0.12	750	0.12	0.42
IL-6	**pg/ml**	0.047	300	0.82	0.82
IL-7	**pg/ml**	0.21	1350	1.0	2.2
IL-8	**pg/ml**	0.16	1000	0.83	0.95
TNFα	**pg/ml**	0.062	400	0.26	0.72

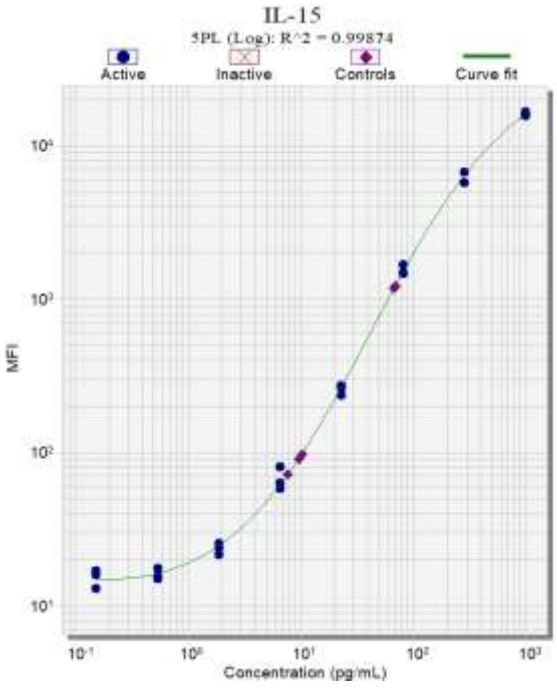
X Dilution Factor		S1	S8	LDD	LLOQ
IFNγ	**pg/ml**	0.31	2000	1.2	3.8
IL-10	**pg/ml**	0.30	1900	0.75	2.0
IL-13	**pg/ml**	0.44	2850	3.8	7.0
IL-15	**pg/ml**	0.78	5000	4.3	7.6
IL-18	**pg/ml**	2.3	15000	4.0	19
IL-1α	**pg/ml**	0.58	3750	0.97	2.1
IL-1β	**pg/ml**	0.54	3500	0.73	1.5
IL-2	**pg/ml**	2.5	16000	4.3	14
IL-4	**pg/ml**	0.54	3500	1.4	4.1
IL-5	**pg/ml**	0.58	3750	0.59	2.1
IL-6	**pg/ml**	0.23	1500	4.1	3.7
IL-7	**pg/ml**	1.0	6750	5.0	11
IL-8	**pg/ml**	0.78	5000	4.1	4.7
TNFα	**pg/ml**	0.31	2000	1.3	3.6

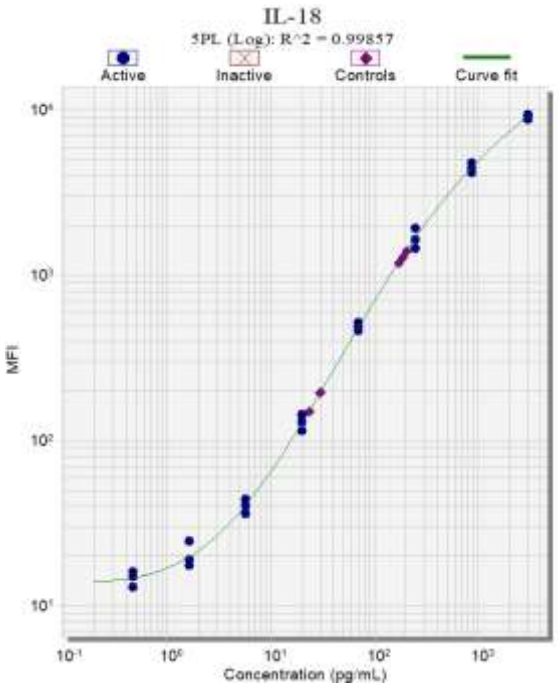
Curves: Curves were calculated using the best fit function in Plate Viewer Software. The S1 is the lowest level standard and the S8 is the highest.

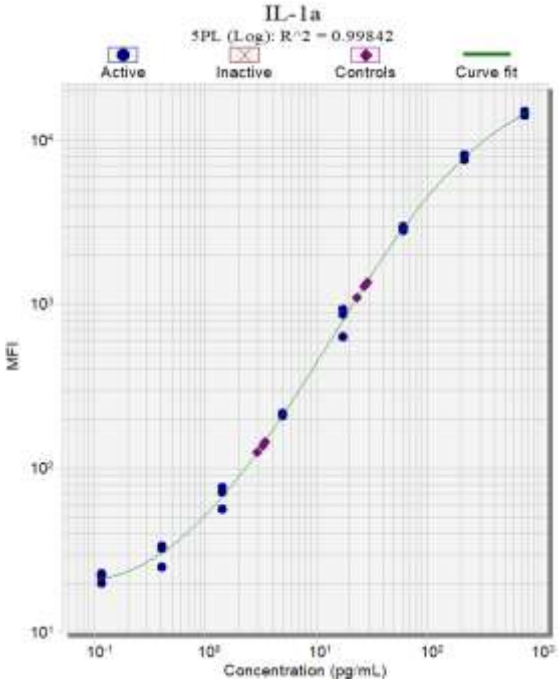


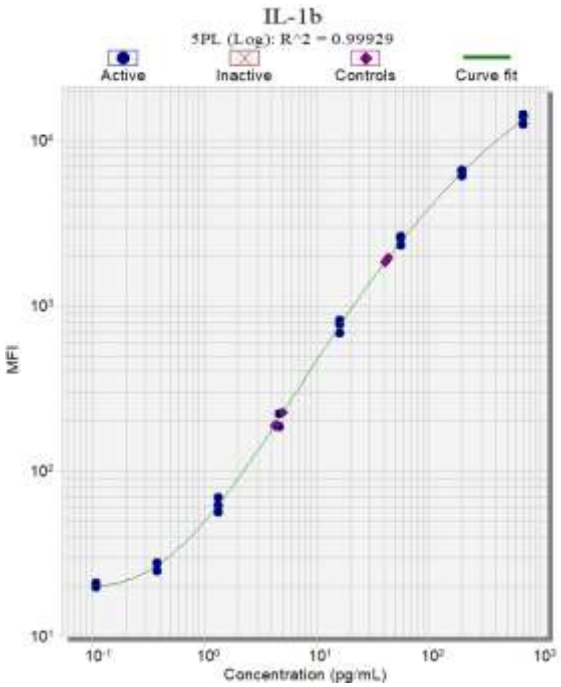


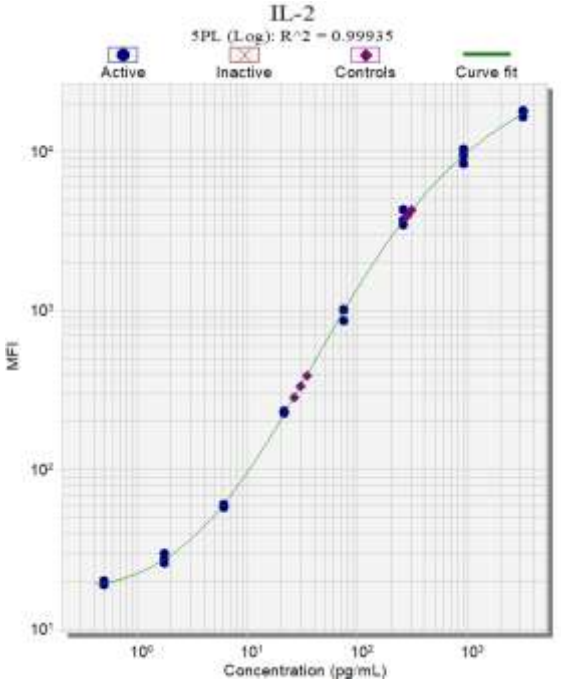

IL-13
5PL (Log): R^2 = 0.99775
Active
Inactive
Controls
Curve fit
MFI
Concentration (pg/mL)

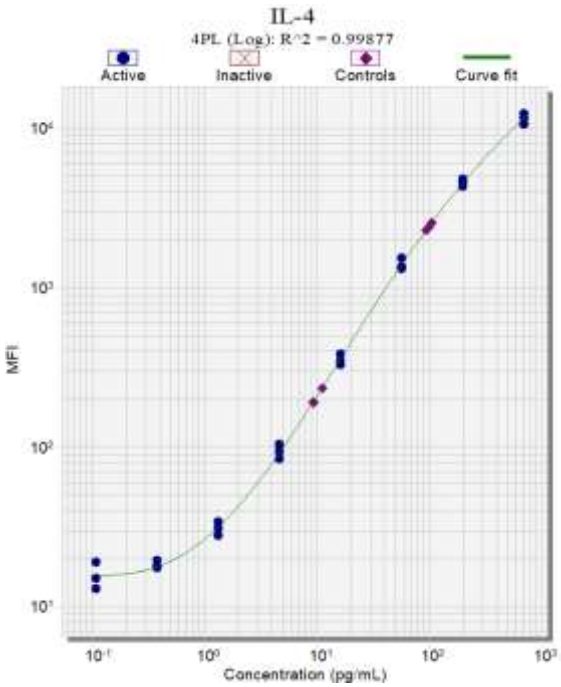

IL-15
5PL (Log): R^2 = 0.99874
Active
Inactive
Controls
Curve fit
MFI
Concentration (pg/mL)

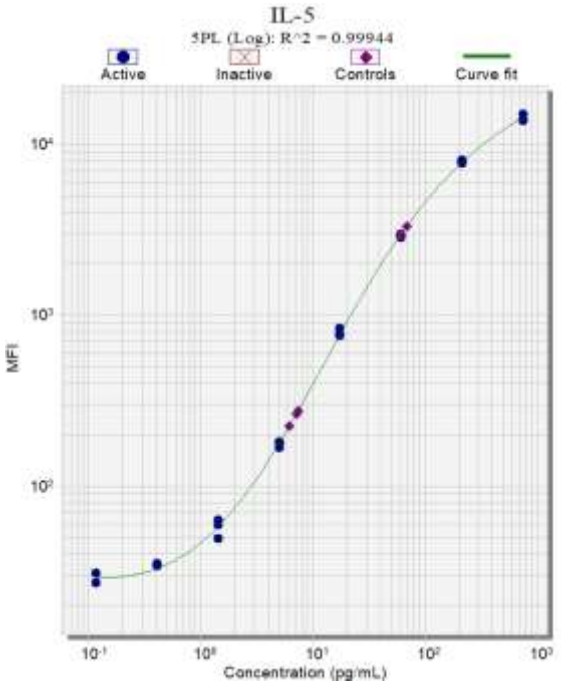

IL-18
5PL (Log): R^2 = 0.99857
Active
Inactive
Controls
Curve fit
MFI
Concentration (pg/mL)

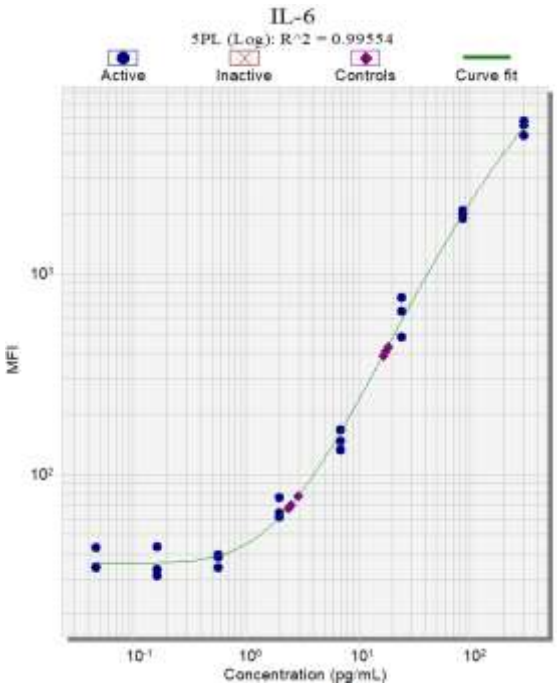

IL-1a
5PL (Log): R^2 = 0.99842
Active
Inactive
Controls
Curve fit
MFI
Concentration (pg/mL)

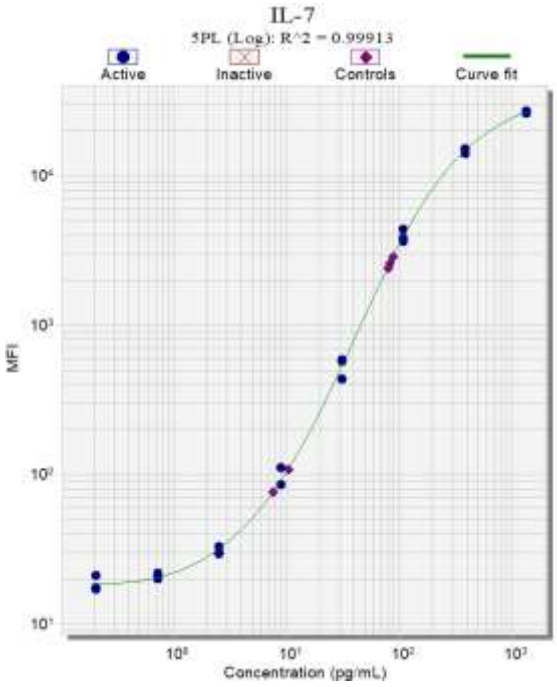

IL-1b
5PL (Log): R^2 = 0.99929
Active
Inactive
Controls
Curve fit
MFI
Concentration (pg/mL)

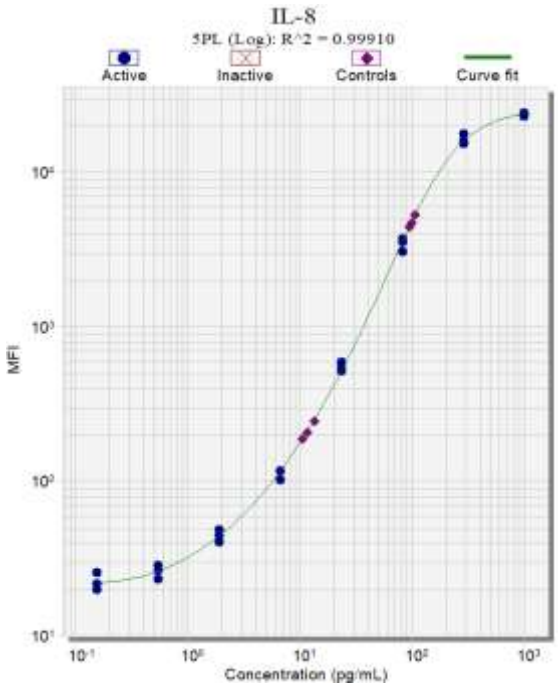

IL-2
5PL (Log): R^2 = 0.99935
Active
Inactive
Controls
Curve fit
MFI
Concentration (pg/mL)

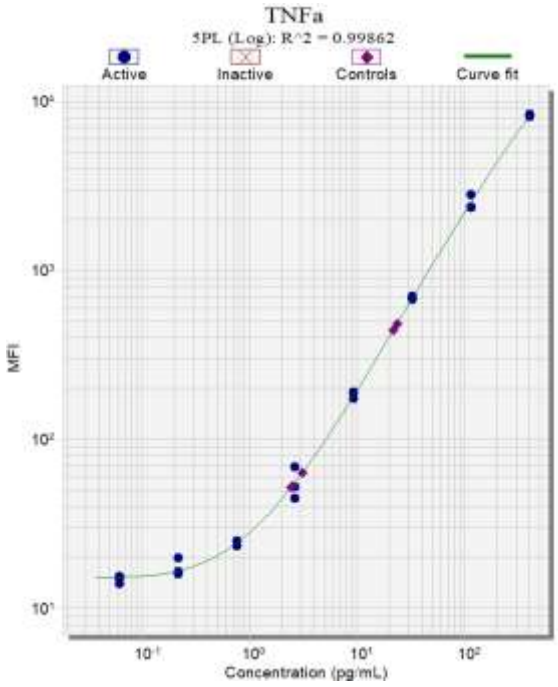

IL-4
4PL (Log): R^2 = 0.99877
Active
Inactive
Controls
Curve fit
MFI
Concentration (pg/mL)


IL-5
5PL (Log): R^2 = 0.99944
Active
Inactive
Controls
Curve fit
MFI
Concentration (pg/mL)


IL-6
5PL (Log): R^2 = 0.99554
Active
Inactive
Controls
Curve fit
MFI
Concentration (pg/mL)


IL-7
5PL (Log): R^2 = 0.99913
Active
Inactive
Controls
Curve fit
MFI
Concentration (pg/mL)





4. Precision:

Control samples were run in triplicate over 3 runs over 2 days with 2 analysts. Precision is the % CV of each run (intra, each run; inter, over 3 runs). Acceptance for precision is <20% CV. All assays meet acceptance for precision.

IFNγ		1	2	3	Inter
Control 1	**Mean**	3.9	4.7	4.5	**4.3**
	% CV	7%	12%	1%	**11%**
Control 2	**Mean**	52	47	53	**51**
	% CV	1%	1%	11%	**7%**

IL-2		1	2	3	Inter
Control 1	**Mean**	30	32	30	**31**
	% CV	13%	3%	9%	**9%**
Control 2	**Mean**	289	297	344	**310**
	% CV	6%	11%	12%	**12%**

IL-10		1	2	3	Inter
Control 1	**Mean**	2.9	3.0	3.1	**3.0**
	% CV	9%	5%	4%	**6%**
Control 2	**Mean**	26	30	31	**29**
	% CV	2%	11%	10%	**11%**

IL-4		1	2	3	Inter
Control 1	**Mean**	10	11	11	**11**
	% CV	11%	5%	12%	**10%**
Control 2	**Mean**	99	98	95	**97**
	% CV	6%	10%	17%	**10%**

IL-13		1	2	3	Inter
Control 1	**Mean**	5.3	5.1	5.4	**5.3**
	% CV	9%	12%	14%	**11%**
Control 2	**Mean**	49	50	48	**49**
	% CV	4%	8%	9%	**7%**

IL-5		1	2	3	Inter
Control 1	**Mean**	6.9	6.9	6.4	**6.7**
	% CV	9%	4%	7%	**7%**
Control 2	**Mean**	64	66	63	**64**
	% CV	7%	10%	11%	**8%**

IL-15		1	2	3	Inter
Control 1	**Mean**	9.2	12	12	**11**
	% CV	14%	16%	3%	**16%**
Control 2	**Mean**	69	78	74	**73**
	% CV	2%	10%	11%	**9%**

IL-6		1	2	3	Inter
Control 1	**Mean**	2.6	2.4	3.5	**2.7**
	% CV	10%	12%	7%	**19%**
Control 2	**Mean**	18	16	16	**16**
	% CV	5%	9%	14%	**10%**

IL-18		1	2	3	Inter
Control 1	**Mean**	28	35	38	**34**
	% CV	14%	13%	11%	**18%**
Control 2	**Mean**	185	199	191	**192**
	% CV	9%	8%	15%	**10%**

IL-7		1	2	3	Inter
Control 1	**Mean**	10	8.2	10	**9.1**
	% CV	16%	16%	4%	**9%**
Control 2	**Mean**	99	86	85	**85**
	% CV	6%	6%	11%	**7%**

IL-1α		1	2	3	Inter
Control 1	**Mean**	3.2	4.1	3.3	**3.5**
	% CV	8%	8%	1%	**13%**
Control 2	**Mean**	26	28	26	**27**
	% CV	10%	5%	18%	**11%**

IL-8		1	2	3	Inter
Control 1	**Mean**	12	12	11	**12**
	% CV	12%	5%	13%	**9%**
Control 2	**Mean**	99	86	114	**105**
	% CV	6%	3%	9%	8%

IL-1β		1	2	3	Inter
Control 1	**Mean**	4.5	5.1	4.2	**4.6**
	% CV	10%	13%	7%	**13%**
Control 2	**Mean**	42	47	42	**44**
	% CV	4%	1%	14%	**9%**

TNFα		1	2	3	Inter
Control 1	**Mean**	2.7	2.8	2.5	**2.7**
	% CV	13%	8%	3%	**9%**
Control 2	**Mean**	22	23	23	**23**
	% CV	5%	4%	10%	6%

5. **Linearity:**

Linearity was assessed using 2 serum, 2 plasma and 2 CSF samples spiked with the standard and diluted 1:2 for 4 dilutions. Percent Recovery was calculated using the calculated value (with kit dilution) as expected (observed x dilution / expected concentration X 100). The acceptance range for linearity is 70-130% recovery for all values above the LLOQ. All assays meet acceptance criteria.

IFNγ				
pg/ml	**Serum 1**	**Serum 2**	**Plasma 1**	**Plasma 2**
1:5	87	58	94	71
1:10	36	22	40	31
1:20	19	12	23	13
1:40	13	5.5	15	7.2
10	83%	75%	85%	87%
20	90%	80%	97%	72%
40	117%	76%	124%	82%

IL-10				
pg/ml	**Serum 1**	**Serum 2**	**Plasma 1**	**Plasma 2**
1:5	10.4	33	15	81
1:10	6.0	19	8.5	42
1:20	3.1	11	4.7	26
1:40	1.2	5.1	2.5	13
10	116%	118%	111%	103%
20	120%	128%	121%	126%
40	89%	123%	130%	128%

IL-13				
pg/ml	**Serum 1**	**Serum 2**	**Plasma 1**	**Plasma 2**
1:5	150	89	156	183
1:10	70	47	79	95
1:20	39	26	45	53
1:40	23	14	22	27
10	94%	107%	102%	104%
20	105%	119%	115%	116%
40	124%	129%	115%	119%

IL-15				
pg/ml	**Serum 1**	**Serum 2**	**Plasma 1**	**Plasma 2**
1:5	264	233	46	280
1:10	150	150	19	141
1:20	82	73	8.5	66
1:40	42	37	6.1	37
10	113%	129%	84%	101%
20	124%	126%	74%	94%
40	128%	127%	108%	106%

IL-18				
pg/ml	**Serum 1**	**Serum 2**	**Plasma 1**	**Plasma 2**
1:5	1135	615	959	699
1:10	598	335	511	344
1:20	338	199	264	181
1:40	141	98	151	79
10	105%	109%	107%	98%
20	119%	129%	110%	104%
40	99%	127%	126%	91%

IL-1α				
pg/ml	**Serum 1**	**Serum 2**	**Plasma 1**	**Plasma 2**
1:5	111	195	29	2.9
1:10	59	107	17	1.1
1:20	30	58	9.1	<LLOQ
1:40	14	32	4.0	<LLOQ
10	107%	110%	118%	79%
20	109%	120%	127%	<LLOQ
40	103%	130%	111%	<LLOQ

IL-1β				
pg/ml	**Serum 1**	**Serum 2**	**Plasma 1**	**Plasma 2**
1:5	110	106	22	186
1:10	51	67	11	98
1:20	31	31	4.5	50
1:40	15	17	3.1	27
10	93%	127%	105%	106%
20	114%	118%	82%	108%
40	108%	126%	115%	115%

IL-2				
pg/ml	**Serum 1**	**Serum 2**	**Plasma 1**	**Plasma 2**
1:5	60	908	122	1080
1:10	24	509	68	472
1:20	15	243	27	191
1:40	8	145	17	108
10	81%	112%	111%	87%
20	102%	107%	89%	71%
40	102%	127%	109%	80%

IL-4				
pg/ml	**Serum 1**	**Serum 2**	**Plasma 1**	**Plasma 2**
1:5	5.4	281.0	40	308
1:10	3.0	147.0	23	161
1:20	1.0	88.3	12	70
1:40	2.2	45.0	6	38
10	111%	105%	117%	104%
20	76%	126%	120%	91%
40	<LLOQ	128%	120%	99%

IL-5				
pg/ml	**Serum 1**	**Serum 2**	**Plasma 1**	**Plasma 2**
1:5	47	47	26	162
1:10	29	25	14	74
1:20	14	15	7.3	45
1:40	7.6	7.3	4.1	25
10	124%	107%	105%	92%
20	120%	128%	113%	110%
40	129%	123%	128%	123%

IL-6				
pg/ml	**Serum 1**	**Serum 2**	**Plasma 1**	**Plasma 2**
1:5	7	91	653	78
1:10	3.1	37	324	48
1:20	1.6	20	146	21
1:40	2.6	12	75	10
10	92%	81%	99%	124%
20	91%	89%	89%	110%
40	<LLOQ	107%	92%	103%

IL-7				
pg/ml	**Serum 1**	**Serum 2**	**Plasma 1**	**Plasma 2**
1:5	384	37	58	242
1:10	213	17	30	145
1:20	115	10	18	77
1:40	59	4.7	<LLOQ	42
10	111%	93%	104%	119%
20	120%	104%	126%	127%
40	123%	103%	<LLOQ	140%

IL-8				
pg/ml	**Serum 1**	**Serum 2**	**Plasma 1**	**Plasma 2**
1:5	218	304	302	337
1:10	126	112	118	142
1:20	61	62	57	66
1:40	32	31	30	39
10	115%	73%	78%	84%
20	111%	81%	76%	78%
40	117%	82%	81%	93%

TNFα				
pg/ml	**Serum 1**	**Serum 2**	**Plasma 1**	**Plasma 2**
1:5	11	2.0	15	22
1:10	5.8	0.93	6.9	9
1:20	3.1	0.50	2.9	6
1:40	1.8	<LLOQ	2.2	3.0
10	106%	95%	91%	79%
20	115%	101%	77%	107%
40	129%	<LLOQ	115%	110%

6. **Freeze/thaw stability:** Samples were assessed for freeze-thaw stability after 3 F/T cycles. All values were within the acceptance range of 80-120% for freeze-thaw samples compared to the non-freeze thawed samples indicating that samples could be freeze-thawed up to 3 times without a loss in signal.

	IFNγ				
	pg/ml	**Serum 1**	**Serum 2**	**Plasma 1**	**Plasma 2**
Value	FT-0X	12	93	17	110
	FT-1X	15	102	13	105
	FT-2X	16	95	15	110
	FT-3X	11	94	14	91
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	121%	110%	77%	95%
	FT-2X	126%	102%	88%	100%
	FT-3X	92%	101%	79%	83%

	IL-10				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	FT-0X	13	91	13	78
	FT-1X	14	88	14	76
	FT-2X	12	84	14	78
	FT-3X	13	106	14	72
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	107%	98%	105%	97%
	FT-2X	93%	93%	105%	101%
	FT-3X	102%	117%	102%	92%

	IL-13				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	FT-0X	16	135	25	178
	FT-1X	17	137	21	157
	FT-2X	12	141	22	158
	FT-3X	14	141	20	158
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	104%	101%	83%	88%
	FT-2X	72%	104%	85%	89%
	FT-3X	83%	104%	81%	89%

	IL-15				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	FT-0X	29	210	46	295
	FT-1X	33	237	45	250
	FT-2X	37	252	35	287
	FT-3X	36	237	47	269
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	114%	113%	98%	85%
	FT-2X	128%	120%	75%	97%
	FT-3X	124%	113%	100%	91%

	IL-18				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	FT-0X	667	712	308	985
	FT-1X	667	662	289	888
	FT-2X	562	792	305	957
	FT-3X	535	609	254	824
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	100%	93%	94%	90%
	FT-2X	84%	111%	99%	97%
	FT-3X	80%	86%	83%	84%

	IL-1α				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	FT-0X	30	271	46	259
	FT-1X	32	263	42	224
	FT-2X	33	294	41	263
	FT-3X	30	344	44	218
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	109%	97%	91%	86%
	FT-2X	110%	108%	88%	102%
	FT-3X	101%	127%	96%	84%

	IL-1β				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	FT-0X	15	137	23	130
	FT-1X	16	132	21	112
	FT-2X	16	148	20	132
	FT-3X	15	172	22	110
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	109%	97%	91%	86%
	FT-2X	110%	108%	88%	102%
	FT-3X	101%	126%	96%	84%

	IL-2				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	FT-0X	100	876	1250	1027
	FT-1X	119	944	1153	983
	FT-2X	113	984	1094	1060
	FT-3X	99	1073	1070	908
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	119%	108%	92%	96%
	FT-2X	113%	112%	87%	103%
	FT-3X	99%	123%	86%	88%

	IL-4				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	FT-0X	12	121	47	352
	FT-1X	12	109	40	315
	FT-2X	10	107	38	349
	FT-3X	11	98	37	309
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	96%	90%	86%	89%
	FT-2X	81%	89%	82%	99%
	FT-3X	88%	81%	78%	88%

	IL-5				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	FT-0X	16	136	30	186
	FT-1X	14	134	27	164
	FT-2X	13	132	28	201
	FT-3X	13	120	24	159
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	91%	98%	89%	88%
	FT-2X	82%	96%	94%	108%
	FT-3X	81%	88%	79%	86%

	IL-6				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	FT-0X	80	62	64	46
	FT-1X	56	67	60	47
	FT-2X	60	73	65	50
	FT-3X	84	69	55	50
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	70%	108%	93%	103%
	FT-2X	76%	117%	102%	110%
	FT-3X	105%	111%	86%	108%

	IL-7				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	FT-0X	51	318	55	262
	FT-1X	50	289	41	242
	FT-2X	53	322	45	255
	FT-3X	60	317	42	246
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	98%	91%	74%	92%
	FT-2X	104%	101%	83%	97%
	FT-3X	119%	100%	76%	94%

	IL-8				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	FT-0X	37	310	60	284
	FT-1X	38	301	53	294
	FT-2X	36	307	55	296
	FT-3X	36	353	56	291
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	104%	97%	89%	103%
	FT-2X	98%	99%	91%	104%
	FT-3X	96%	114%	94%	102%

	TNFα				
	pg/ml	**Serum 1**	**Serum 2**	**Plasma 1**	**Plasma 2**
Value	FT-0X	10	80	14	9
	FT-1X	11	65	15	8
	FT-2X	10	72	13	7
	FT-3X	12	70	12	9
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	110%	82%	103%	92%
	FT-2X	104%	91%	92%	83%
	FT-3X	118%	88%	85%	104%

7. **Bench Top Stability:** Samples were assessed for bench top stability at 2hr RT to determine if the samples were stable on the bench prior to the assay or if refrigeration was required. All values were within the acceptance range of 80-120% for samples compared to the bench top samples indicating that no loss in activity will occur during the testing of the samples.

	IFNγ				
	pg/ml	**Serum 1**	**Serum 2**	**Plasma 1**	**Plasma 2**
Value	0 HR	12	112	39	120
	2hr RT	10	94	47	92
	2hr 4C	12	109	38	106
	4hr 4C	11	97	32	95
% Control	0 HR	100%	100%	100%	100%
	2hr RT	85%	84%	122%	76%
	2hr 4C	106%	98%	98%	88%
	4hr 4C	92%	87%	82%	79%

	IL-10				
	pg/ml	**Serum 1**	**Serum 2**	**Plasma 1**	**Plasma 2**
Value	0 HR	13	98	17	85
	2hr RT	11	86	18	69
	2hr 4C	10	95	15	72
	4hr 4C	10	90	17	76
% Control	0 HR	100%	100%	100%	100%
	2hr RT	82%	87%	108%	82%
	2hr 4C	74%	96%	91%	86%
	4hr 4C	77%	91%	102%	90%

	IL-13				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	0 HR	14	160	35	213
	2hr RT	12	150	40	168
	2hr 4C	16	175	33	183
	4hr 4C	12	172	35	164
% Control	0 HR	100%	100%	100%	100%
	2hr RT	91%	94%	114%	79%
	2hr 4C	121%	109%	96%	86%
	4hr 4C	87%	108%	102%	77%

	IL-15				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	0 HR	33	250	1401	348
	2hr RT	33	245	1761	271
	2hr 4C	27	240	1500	349
	4hr 4C	23	279	1426	317
% Control	0 HR	100%	100%	100%	100%
	2hr RT	102%	98%	126%	78%
	2hr 4C	84%	96%	107%	100%
	4hr 4C	71%	112%	102%	91%

	IL-18				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	0 HR	675	857	3082	1205
	2hr RT	621	784	3444	898
	2hr 4C	638	797	2480	1072
	4hr 4C	803	787	2287	1051
% Control	0 HR	100%	100%	100%	100%
	2hr RT	92%	91%	112%	74%
	2hr 4C	95%	93%	80%	89%
	4hr 4C	119%	92%	74%	87%

	IL-1α				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	0 HR	15	141	429	134
	2hr RT	14	153	399	94
	2hr 4C	15	149	353	120
	4hr 4C	14	180	346	108
% Control	0 HR	100%	100%	100%	100%
	2hr RT	95%	108%	93%	71%
	2hr 4C	101%	106%	82%	90%
	4hr 4C	96%	128%	81%	81%

	IL-1β				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	0 HR	14	119	838	214
	2hr RT	14	117	1051	169
	2hr 4C	13	136	800	182
	4hr 4C	14	124	818	184
% Control	0 HR	100%	100%	100%	100%
	2hr RT	102%	98%	125%	79%
	2hr 4C	98%	114%	95%	85%
	4hr 4C	104%	104%	98%	86%

	IL-2				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	0 HR	92	1011	1030	1145
	2hr RT	76	758	1250	985
	2hr 4C	85	889	1182	1035
	4hr 4C	98	945	921	1035
% Control	0 HR	100%	100%	100%	100%
	2hr RT	83%	75%	121%	86%
	2hr 4C	93%	88%	115%	90%
	4hr 4C	106%	93%	89%	90%

	IL-4				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	0 HR	12	154	71	371
	2hr RT	13	136	72	301
	2hr 4C	13	149	73	331
	4hr 4C	15	162	73	327
% Control	0 HR	100%	100%	100%	100%
	2hr RT	115%	88%	101%	81%
	2hr 4C	109%	97%	104%	89%
	4hr 4C	126%	105%	103%	88%

	IL-5				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	0 HR	15	113	28	196
	2hr RT	14	123	32	151
	2hr 4C	12	134	29	193
	4hr 4C	12	114	30	157
% Control	0 HR	100%	100%	100%	100%
	2hr RT	94%	109%	113%	77%
	2hr 4C	83%	119%	101%	98%
	4hr 4C	84%	101%	104%	80%

	IL-6				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	0 HR	62	82	76	60
	2hr RT	75	93	76	49
	2hr 4C	79	88	80	46
	4hr 4C	70	94	61	60
% Control	0 HR	100%	100%	100%	100%
	2hr RT	121%	113%	100%	81%
	2hr 4C	128%	107%	105%	77%
	4hr 4C	113%	114%	80%	99%

	IL-7				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	0 HR	50	341	58	295
	2hr RT	60	354	60	248
	2hr 4C	41	368	62	278
	4hr 4C	51	328	69	301
% Control	0 HR	100%	100%	100%	100%
	2hr RT	120%	104%	103%	84%
	2hr 4C	82%	108%	107%	94%
	4hr 4C	102%	96%	120%	102%

	IL-8				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	0 HR	32	318	70	336
	2hr RT	36	297	76	285
	2hr 4C	32	322	74	340
	4hr 4C	31	333	75	353
% Control	0 HR	100%	100%	100%	100%
	2hr RT	111%	93%	109%	85%
	2hr 4C	99%	101%	107%	101%
	4hr 4C	98%	105%	107%	105%

	TNFα				
	pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	0 HR	8	73	641	7
	2hr RT	9	69	636	8
	2hr 4C	9	77	631	9
	4hr 4C	8	64	636	8
% Control	0 HR	100%	100%	100%	100%
	2hr RT	105%	95%	99%	118%
	2hr 4C	105%	107%	98%	119%
	4hr 4C	105%	89%	99%	107%