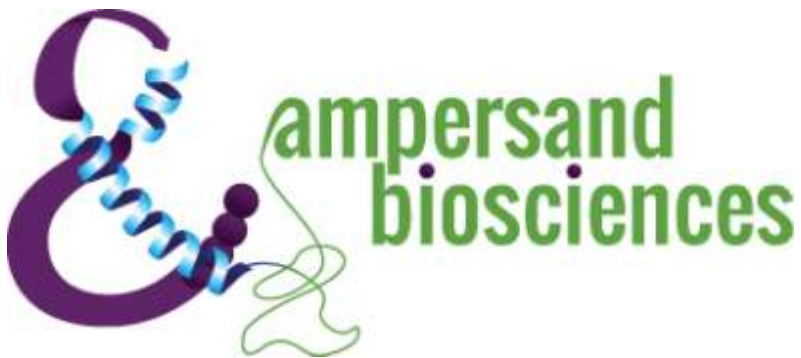


Human Cytokine Panel 2

Kit # HU119-K

Validation Report Version 1.0



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Date 29/05/25

Reviewed by: *Laurie Stephen*

Date 29/05/25

## 1. Assay Description:

A multiplex assay was developed and validated for the measurement of Eotaxin, Granzyme A (GZMA), Granzyme B (GZMB), IL-12p40, IL-1RA, IL-2R $\alpha$ , IP-10, MCP-1, MIP-1 $\alpha$ , MIP-1 $\beta$ , VEGF. 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  $\mu$ L of standard, controls or sample are added to the appropriate wells, followed by 10  $\mu$ L of blocker and 10  $\mu$ L of multiplexed capture-antibody microspheres. The plate is incubated for 1 hour at ambient temperature on a plate shaker. After washing 3 times, 40 $\mu$ L 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  $\mu$ L 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	Fetal Bovine Serum (20%) spiked with low levels of Recombinant Eotaxin, GZMA, GZMB, IL-12p40, IL-1RA, IL-2R $\alpha$ , IP-10, MCP-1, MIP-1 $\alpha$ , MIP-1 $\beta$ , and VEGF.
Control 2	Normal Human Serum (20%) spiked with mid levels of Recombinant Eotaxin, GZMA, GZMB, IL-12p40, IL-1RA, IL-2R $\alpha$ , IP-10, MCP-1, MIP-1 $\alpha$ , MIP-1 $\beta$ , and VEGF.

Sample	Description
Serum 1	Normal Human Serum spiked with Recombinant Eotaxin, GZMA, GZMB, IL-12p40, IL-1RA, IL-2R $\alpha$ , IP-10, MIP-1 $\alpha$ , and VEGF.
Serum 2	Normal Human Serum spiked with Recombinant Eotaxin, GZMA, GZMB, IL-12p40, IL-1RA, IL-2R $\alpha$ , IP-10, MCP-1, MIP-1 $\alpha$ , MIP-1 $\beta$ , and VEGF.
Plasma 1	Normal Human Plasma spiked with Recombinant Eotaxin, GZMA, GZMB, IL-12p40, IL-1RA, IL-2R $\alpha$ , IP-10, MCP-1, MIP-1 $\alpha$ , and VEGF.
Plasma 2	Normal Human Plasma spiked with Recombinant Eotaxin, GZMA, GZMB, IL-12p40, IL-1RA, IL-2R $\alpha$ , IP-10, MCP-1, MIP-1 $\alpha$ , MIP-1 $\beta$ , and VEGF.

### 3. LLOQ, LDD and Curves:

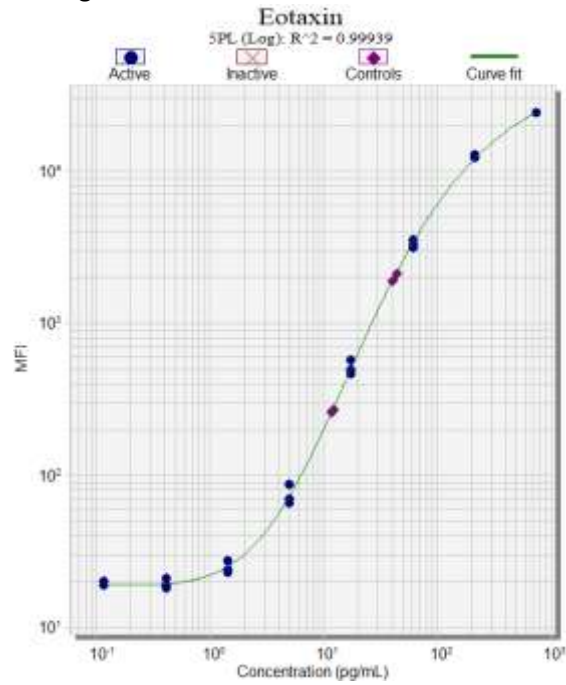
**LDD:** MFI (Median Fluorescent Intensity) for 8 replicates of the standard curve diluent was averaged and two (2) standard deviations added. This value was calculated to concentration off the standard curve.

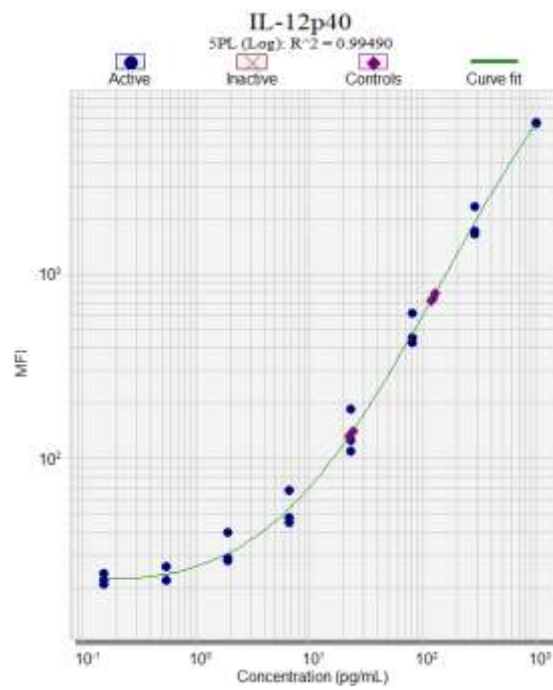
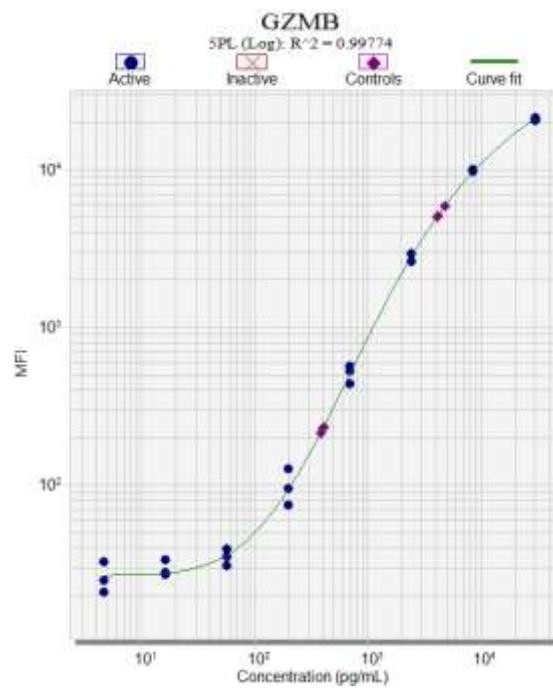
**LLOQ:** LLOQ was assessed by diluting a low serum sample for 8, 2-fold dilutions in duplicate. The LLOQ represents the value at which 30% CV was attained, with linearity with 70-130%. If that value calculates lower than the LOD, then the LLOQ value is equal to the LOD.

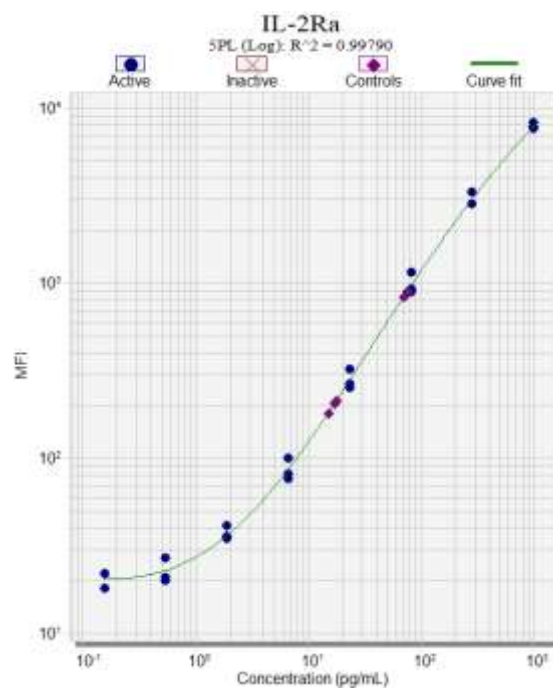
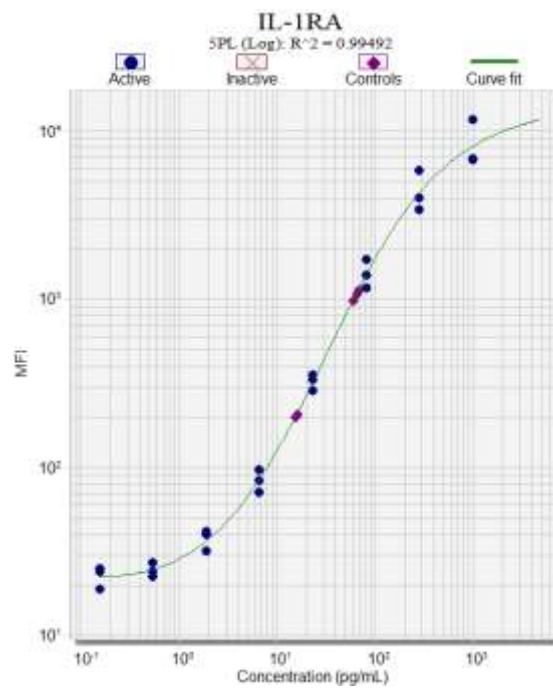
		S1	S8	LDD	LLOQ
Eotaxin	pg/ml	0.12	750	0.99	0.98
GZMA	pg/ml	6.2	40000	9.0	11.2
GZMB	pg/ml	4.7	30000	43	58.3
IL-12p40	pg/ml	0.16	1000	0.68	0.85
IL-1RA	pg/ml	0.16	1000	1.1	1.1
IL-2R $\alpha$	pg/ml	0.16	1000	0.44	0.57
IP-10	pg/ml	0.16	1000	0.37	0.4
MCP-1	pg/ml	0.16	1000	0.94	0.94
MIP-1 $\alpha$	pg/ml	0.16	1000	0.20	0.57
MIP-1B	pg/ml	0.16	1000	0.37	0.40
VEGF	pg/ml	0.44	2800	1.3	1.3

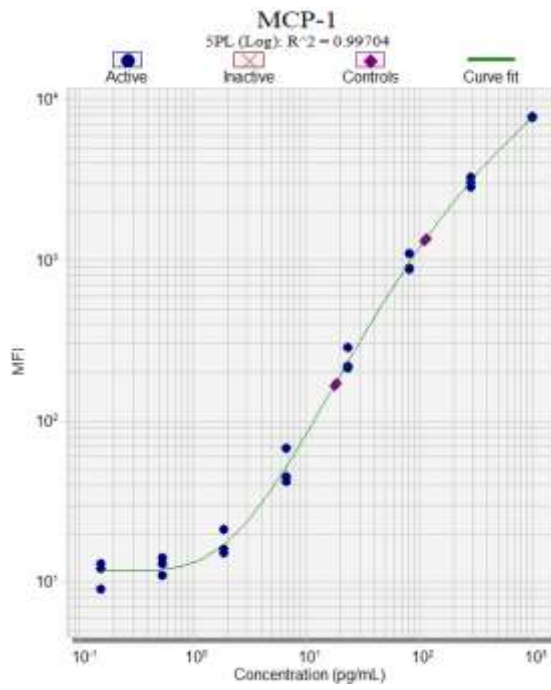
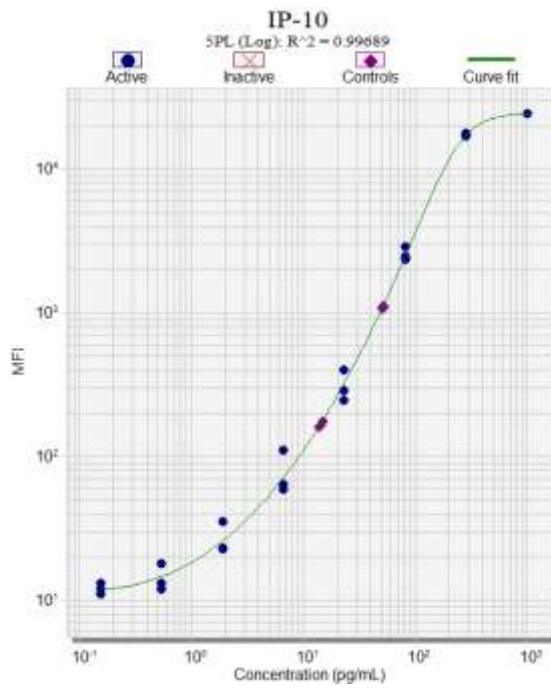
X Dilution Factor		S1	S8	LDD	LLOQ
Eotaxin	pg/ml	0.58	3750	4.9	4.9
GZMA	pg/ml	31.1	200000	45	56
GZMB	pg/ml	23.3	150000	216	292
IL-12p40	pg/ml	0.78	5000	3.4	4.3
IL-1RA	pg/ml	0.78	5000	5.7	5.5
IL-2R $\alpha$	pg/ml	0.78	5000	2.2	2.8
IP-10	pg/ml	0.78	5000	1.8	1.8
MCP-1	pg/ml	0.78	5000	4.7	4.7
MIP-1 $\alpha$	pg/ml	0.78	5000	0.98	2.8
MIP-1B	pg/ml	0.78	5000	1.8	2.0
VEGF	pg/ml	2.2	14000	6.5	6.6

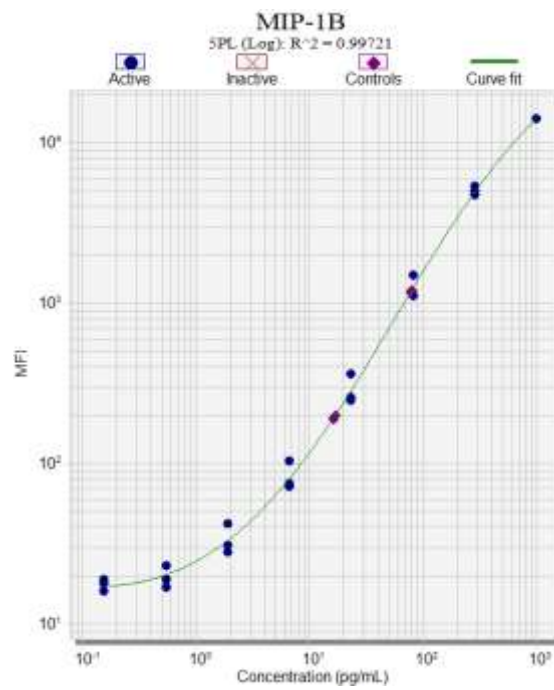
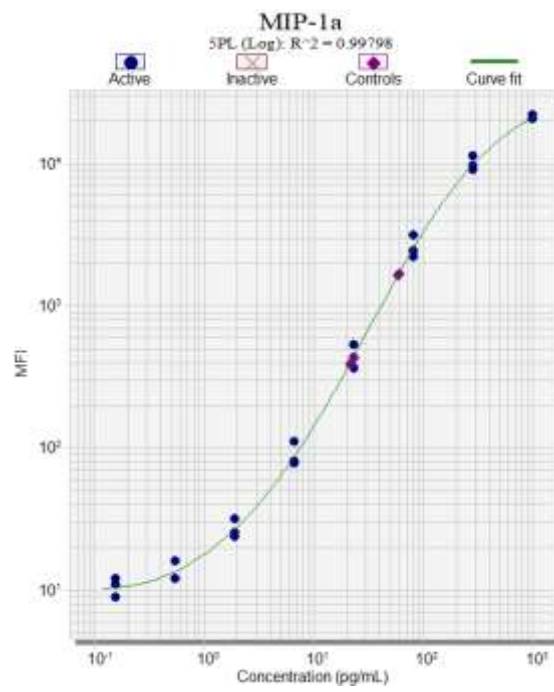
**Curves:** Curves were calculated using the best fit function in Plate Viewer Software. The S1 is the lowest level standard and the S8 is the highest.

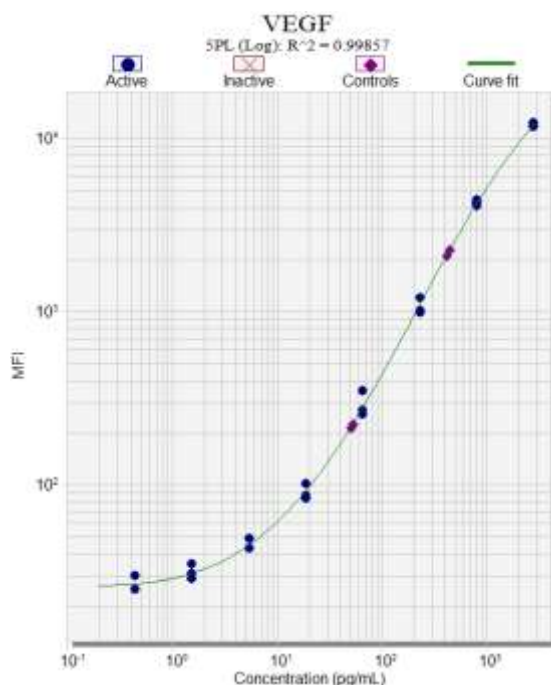












**4. Precision:**

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.

Eotaxin		1	2	3	Inter
Control 1	Mean	12	12	12	12
	% CV	2%	3%	4%	4%
Control 2	Mean	43	43	41	42
	% CV	4%	4%	4%	4%

GZMA		1	2	3	Inter
Control 1	Mean	263	238	210	237
	% CV	13%	9%	3%	13%
Control 2	Mean	2280	2420	2173	2291
	% CV	4%	6%	3%	6%

GZMB		1	2	3	Inter
Control 1	Mean	401	369	360	376
	% CV	9%	3%	8%	8%
Control 2	Mean	3993	3950	3573	3839
	% CV	1%	4%	3%	6%

IL-12p40		1	2	3	Inter
Control 1	Mean	21	22	23	22
	% CV	5%	1%	9%	6%
Control 2	Mean	107	129	104	113
	% CV	1%	6%	9%	12%

IL-1RA		1	2	3	Inter
Control 1	Mean	17	16	17	17
	% CV	1%	2%	2%	4%
Control 2	Mean	80	71	67	73
	% CV	5%	1%	2%	8%

IL-2R $\alpha$		1	2	3	Inter
Control 1	Mean	17	18	17	17
	% CV	4%	2%	5%	3%
Control 2	Mean	77	75	71	74
	% CV	3%	7%	3%	5%

IP-10		1	2	3	Inter
Control 1	Mean	15	15	14	15
	% CV	1%	3%	3%	4%
Control 2	Mean	51	52	47	50
	% CV	2%	2%	3%	5%

MCP-1		1	2	3	Inter
Control 1	Mean	18	18	19	18
	% CV	5%	4%	7%	6%
Control 2	Mean	118	111	107	112
	% CV	2%	6%	6%	6%

MIP-1 $\alpha$		1	2	3	Inter
Control 1	Mean	20	24	22	22
	% CV	4%	4%	1%	8%
Control 2	Mean	51	62	56	56
	% CV	2%	4%	1%	9%

MIP-1 $\beta$		1	2	3	Inter
Control 1	Mean	16	15	16	16
	% CV	3%	1%	3%	2%
Control 2	Mean	77	77	70	75
	% CV	2%	1%	0%	5%

VEGF		1	2	3	Inter
Control 1	Mean	57	52	52	54
	% CV	55	3%	7%	6%
Control 2	Mean	53	425	412	423
	% CV	52	3%	3%	3%

## 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.

<b>Eotaxin</b>				
<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
<b>1:5</b>	74	219	84	162
<b>1:10</b>	39	111	35	66
<b>1:20</b>	20	52	16	38
<b>1:40</b>	10	27	11	22
<b>10</b>	106%	102%	84%	82%
<b>20</b>	107%	95%	78%	94%
<b>40</b>	103%	98%	108%	108%

<b>GZMA</b>				
<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
<b>1:5</b>	6435	268500	9515	1275
<b>1:10</b>	2840	157500	5895	813
<b>1:20</b>	1375	85050	2690	408
<b>1:40</b>	674	29250	1530	197
<b>10</b>	88%	117%	124%	127%
<b>20</b>	85%	127%	113%	128%
<b>40</b>	84%	87%	129%	124%

<b>GZMB</b>				
<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
<b>1:5</b>	8415	141500	1368	1140
<b>1:10</b>	3950	70850	796	553
<b>1:20</b>	1945	38950	336	230
<b>1:40</b>	1040	15750	158	116
<b>10</b>	94%	100%	116%	97%
<b>20</b>	92%	110%	98%	81%
<b>40</b>	99%	89%	92%	81%

<b>IL-12p40</b>				
<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
<b>1:5</b>	107	354	71	292
<b>1:10</b>	59	184	33	128
<b>1:20</b>	29	89	18	60
<b>1:40</b>	14	48	11	32
<b>10</b>	109%	104%	92%	88%
<b>20</b>	107%	101%	99%	82%
<b>40</b>	107%	109%	123%	88%

<b>IL-1RA</b>				
<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
<b>1:5</b>	102	392	54	183
<b>1:10</b>	60	193	25	93
<b>1:20</b>	28	86	13	50
<b>1:40</b>	24	41	8	27
<b>10</b>	117%	98%	93%	102%
<b>20</b>	111%	88%	95%	110%
<b>40</b>	190%	84%	119%	118%

<b>IL-2RA</b>				
<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
<b>1:5</b>	80	349	63	233
<b>1:10</b>	42	169	33	128
<b>1:20</b>	22	85	20	65
<b>1:40</b>	11	42	7	35
<b>10</b>	105%	97%	105%	110%
<b>20</b>	109%	98%	129%	112%
<b>40</b>	106%	96%	92%	121%

<b>IP-10</b>				
<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
<b>1:5</b>	70	273	71	236
<b>1:10</b>	36	148	32	122
<b>1:20</b>	19	76	16	58
<b>1:40</b>	9.0	37	9.3	31
<b>10</b>	103%	108%	91%	103%
<b>20</b>	109%	111%	91%	98%
<b>40</b>	102%	109%	105%	106%

<b>MCP-1</b>				
<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
<b>1:5</b>	100	473	404	767
<b>1:10</b>	49	250	167	370
<b>1:20</b>	24	118	86	212
<b>1:40</b>	12	54	45	89
<b>10</b>	99%	106%	83%	97%
<b>20</b>	96%	99%	85%	111%
<b>40</b>	100%	92%	90%	93%

MIP-1 $\alpha$				
pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
1:5	287	386	13	319
1:10	162	196	6.4	190
1:20	73	102	3.0	101
1:40	41	49	1.2	43
10	113%	102%	97%	119%
20	101%	105%	90%	127%
40	114%	102%	75%	108%

MIP-1 $\beta$				
pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
1:5	108	398	128	256
1:10	58	239	68	153
1:20	30	112	40	76
1:40	14	64	21	41
10	107%	120%	106%	119%
20	112%	113%	124%	118%
40	104%	128%	129%	129%

VEGF				
pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
1:5	376	2265	185	715
1:10	208	1270	84	372
1:20	101	605	36	184
1:40	53	310	22	102
10	111%	112%	90%	104%
20	107%	107%	77%	103%
40	112%	109%	97%	114%

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.

		Eotaxin				
		pg/ml	Serum 1	Serum 2	Plasma 1	Plasma 2
Value	FT-0X		64	119	70	147
	FT-1X		68	119	74	144
	FT-2X		69	123	69	147
	FT-3X		64	119	75	148
% Control	FT-0X		100%	100%	100%	100%
	FT-1X		107%	100%	107%	98%
	FT-2X		108%	103%	99%	100%
	FT-3X		100%	100%	108%	101%

	<b>GZMA</b>				
	<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
Value	FT-0X	535	57400	946	48650
	FT-1X	419	54900	1021	50900
	FT-2X	508	59750	1140	48000
	FT-3X	407	60050	1200	46700
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	78%	96%	108%	105%
	FT-2X	95%	104%	121%	99%
	FT-3X	76%	105%	127%	96%

	<b>GZMB</b>				
	<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
Value	FT-0X	1085	36950	1050	17100
	FT-1X	1030	36700	1103	18800
	FT-2X	1120	41400	1115	20050
	FT-3X	1190	37200	1050	18800
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	95%	99%	105%	110%
	FT-2X	103%	112%	106%	117%
	FT-3X	110%	101%	100%	110%

	<b>IL-12p40</b>				
	<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
Value	FT-0X	153	165	55	250
	FT-1X	194	162	63	262
	FT-2X	148	164	64	271
	FT-3X	147	173	65	281
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	127%	98%	114%	105%
	FT-2X	97%	99%	117%	108%
	FT-3X	96%	105%	118%	112%

	<b>IL-1RA</b>				
	<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
Value	FT-0X	106	93	55	205
	FT-1X	115	92	60	203
	FT-2X	124	95	55	207
	FT-3X	107	91	59	207
% Control	FT-0X	100%	100%	100%	100%
	FT-1X	108%	99%	109%	99%
	FT-2X	117%	102%	99%	101%
	FT-3X	101%	98%	108%	101%

		<b>IL-2RA</b>					
		<b>pg/ml</b>		<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
Value	FT-0X			79	204	50	210
	FT-1X			77	201	60	209
	FT-2X			80	209	58	204
	FT-3X			79	207	59	240
% Control	FT-0X			100%	100%	100%	100%
	FT-1X			97%	98%	119%	100%
	FT-2X			102%	102%	115%	97%
	FT-3X			100%	101%	118%	115%

		<b>IP-10</b>					
		<b>pg/ml</b>		<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
Value	FT-0X			57	262	56	188
	FT-1X			63	275	65	212
	FT-2X			71	285	61	215
	FT-3X			57	300	67	237
% Control	FT-0X			100%	100%	100%	100%
	FT-1X			109%	105%	115%	113%
	FT-2X			124%	109%	109%	114%
	FT-3X			99%	115%	120%	126%

		<b>MCP-1</b>					
		<b>pg/ml</b>		<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
Value	FT-0X			297	844	132	400
	FT-1X			342	911	156	385
	FT-2X			313	932	140	399
	FT-3X			356	925	153	397
% Control	FT-0X			100%	100%	100%	100%
	FT-1X			115%	108%	118%	96%
	FT-2X			105%	110%	105%	100%
	FT-3X			120%	110%	116%	99%

		<b>MIP-1<math>\alpha</math></b>					
		<b>pg/ml</b>		<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
Value	FT-0X			3	221	5.6	271
	FT-1X			3	218	6.9	259
	FT-2X			3	226	7.2	239
	FT-3X			3	228	6.7	275
% Control	FT-0X			100%	100%	100%	100%
	FT-1X			96%	99%	125%	96%
	FT-2X			94%	102%	129%	88%
	FT-3X			95%	103%	121%	101%

		<b>MIP-1<math>\beta</math></b>				
		<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
Value	FT-0X		96	341	107	227
	FT-1X		101	339	119	231
	FT-2X		122	355	118	224
	FT-3X		96	373	115	228
% Control	FT-0X		100%	100%	100%	100%
	FT-1X		105%	99%	112%	102%
	FT-2X		128%	104%	110%	99%
	FT-3X		100%	109%	108%	100%

		<b>VEGF</b>				
		<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
Value	FT-0X		363	582	174	954
	FT-1X		395	579	183	938
	FT-2X		445	582	171	991
	FT-3X		377	587	198	997
% Control	FT-0X		100%	100%	100%	100%
	FT-1X		109%	99%	105%	98%
	FT-2X		123%	100%	98%	104%
	FT-3X		104%	101%	114%	105%

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.

		<b>Eotaxin</b>				
		<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
Value	0 HR		71	148	84	167
	2hr RT		73	158	89	176
	2hr 4C		73	137	86	168
	4hr 4C		77	150	88	177
% Control	0 HR		100%	100%	100%	100%
	2hr RT		102%	107%	105%	106%
	2hr 4C		102%	93%	102%	101%
	4hr 4C		108%	101%	104%	106%

		<b>GZMA</b>				
		<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
Value	0 HR		545	70800	1090	22050
	2hr RT		663	76300	1365	27750
	2hr 4C		644	66550	1165	23850
	4hr 4C		611	75850	1150	25300
% Control	0 HR		100%	100%	100%	100%
	2hr RT		122%	108%	125%	126%
	2hr 4C		118%	94%	107%	108%
	4hr 4C		112%	107%	106%	115%

		<b>GZMB</b>				
		<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
Value	0 HR		1200	50600	1455	17150
	2hr RT		1380	47700	1480	16900
	2hr 4C		1325	43300	1415	17400
	4hr 4C		1400	49850	1410	17300
% Control	0 HR		100%	100%	100%	100%
	2hr RT		115%	94%	102%	99%
	2hr 4C		110%	86%	97%	101%
	4hr 4C		117%	99%	97%	101%

		<b>IL-12p40</b>				
		<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
Value	0 HR		168	181	83	206
	2hr RT		169	193	93	223
	2hr 4C		175	188	89	208
	4hr 4C		186	187	83	214
% Control	0 HR		100%	100%	100%	100%
	2hr RT		101%	107%	112%	108%
	2hr 4C		104%	104%	108%	101%
	4hr 4C		110%	103%	100%	104%

		<b>IL-1RA</b>				
		<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
Value	0 HR		113	93	67	188
	2hr RT		113	101	68	198
	2hr 4C		116	96	63	185
	4hr 4C		112	99	60	189
% Control	0 HR		100%	100%	100%	100%
	2hr RT		100%	108%	101%	105%
	2hr 4C		103%	103%	94%	98%
	4hr 4C		99%	106%	90%	100%

	<b>IL-2RA</b>				
	<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
Value	0 HR	95	232	67	211
	2hr RT	85	227	73	226
	2hr 4C	93	235	72	217
	4hr 4C	93	244	68	225
% Control	0 HR	100%	100%	100%	100%
	2hr RT	90%	98%	110%	107%
	2hr 4C	98%	101%	108%	103%
	4hr 4C	98%	105%	102%	106%

	<b>IP-10</b>				
	<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
Value	0 HR	78	308	81	199
	2hr RT	56	331	90	241
	2hr 4C	75	297	83	220
	4hr 4C	77	328	88	233
% Control	0 HR	100%	100%	100%	100%
	2hr RT	72%	108%	111%	121%
	2hr 4C	96%	96%	103%	111%
	4hr 4C	99%	107%	108%	117%

	<b>MCP-1</b>				
	<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
Value	0 HR	108	246	54	119
	2hr RT	112	264	65	138
	2hr 4C	108	248	55	118
	4hr 4C	112	260	56	119
% Control	0 HR	100%	100%	100%	100%
	2hr RT	104%	107%	119%	116%
	2hr 4C	100%	101%	100%	99%
	4hr 4C	104%	106%	102%	100%

	<b>MIP-1<math>\alpha</math></b>				
	<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
Value	0 HR	4.8	253	7.3	244
	2hr RT	5.3	267	6.8	247
	2hr 4C	4.6	263	7.1	240
	4hr 4C	5.4	268	6.4	260
% Control	0 HR	100%	100%	100%	100%
	2hr RT	109%	106%	93%	101%
	2hr 4C	96%	104%	97%	98%
	4hr 4C	112%	106%	87%	107%

		<b>MIP-1<math>\beta</math></b>				
		<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
Value	0 HR		115	399	139	494
	2hr RT		121	417	148	499
	2hr 4C		114	399	139	462
	4hr 4C		121	431	133	514
% Control	0 HR		100%	100%	100%	100%
	2hr RT		105%	105%	106%	101%
	2hr 4C		99%	100%	100%	94%
	4hr 4C		105%	108%	96%	104%

		<b>VEGF</b>				
		<b>pg/ml</b>	<b>Serum 1</b>	<b>Serum 2</b>	<b>Plasma 1</b>	<b>Plasma 2</b>
Value	0 HR		373	615	199	737
	2hr RT		401	654	220	879
	2hr 4C		378	645	210	719
	4hr 4C		403	632	186	757
% Control	0 HR		100%	100%	100%	100%
	2hr RT		108%	106%	110%	119%
	2hr 4C		101%	105%	105%	98%
	4hr 4C		108%	103%	93%	103%

# Human Cytokine Panel 2 Validation Report

Final Audit Report

2025-05-29

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By:	Laurie Stephen (lstephen@ampersandbio.com)
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