

## CERTIFICATE OF ANALYSIS

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**Product Description:** V-PLEX® and V-PLEX Proinflammatory Panel 1 (human) Kit

**Kit Catalog Numbers:** K15049-Series, K15052-Series, K15053-Series

**Kit Lot Number:** K0081101

**Expiration Date:** 30 Nov 2019

### Acceptance Data/ Percent Recovery Specifications:

Spot	Name	Calibrator		Proinflammatory Panel 1 (human) Control 1		Proinflammatory Panel 1 (human) Control 2		Proinflammatory Panel 1 (human) Control 3	
		Recovery	CV	Recovery	CV	Recovery	CV	Recovery	CV
1	hu IFN- $\gamma$	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
2	hu IL-1 $\beta$	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
3	hu IL-2	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
4	hu IL-4	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
5	hu IL-6	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
6	hu IL-8	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
7	hu IL-10	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
8	hu IL-12p70	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
9	hu IL-13	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
10	hu TNF- $\alpha$	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%

Spot	Name	LLOQ			ULOQ		
		Value	Recovery	CV	Value	Recovery	CV
1	hu IFN- $\gamma$	1.76	80% - 120%	< 20%	938	80% - 120%	< 20%
2	hu IL-1 $\beta$	0.646	80% - 120%	< 20%	375	80% - 120%	< 20%
3	hu IL-2	0.890	80% - 120%	< 20%	938	80% - 120%	< 20%
4	hu IL-4	0.218	80% - 120%	< 20%	158	80% - 120%	< 20%
5	hu IL-6	0.633	80% - 120%	< 20%	488	80% - 120%	< 20%
6	hu IL-8	0.591	80% - 120%	< 20%	375	80% - 120%	< 20%
7	hu IL-10	0.298	80% - 120%	< 20%	233	80% - 120%	< 20%
8	hu IL-12p70	1.22	80% - 120%	< 20%	315	80% - 120%	< 20%
9	hu IL-13	4.21	80% - 120%	< 20%	353	80% - 120%	< 20%
10	hu TNF- $\alpha$	0.690	80% - 120%	< 20%	248	80% - 120%	< 20%

### Acceptance Data/ Non Specific Binding Specifications:

Spot	Name	NSB Spec
1	hu IFN- $\gamma$	< 1.0%
2	hu IL-1 $\beta$	< 1.0%
3	hu IL-2	< 1.0%
4	hu IL-4	< 1.0%
5	hu IL-6	< 1.0%
6	hu IL-8	< 1.0%
7	hu IL-10	< 1.0%
8	hu IL-12p70	< 1.0%
9	hu IL-13	< 1.0%
10	hu TNF- $\alpha$	< 1.0%

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### Stock Concentration of Material Tested :

Spot	Name	Item	Conc	Units
1	hu IFN- $\gamma$	Calibrator	1270	pg/mL
		Proinflammatory Panel 1 (human) Control 1	512	pg/mL
		Proinflammatory Panel 1 (human) Control 2	132	pg/mL
		Proinflammatory Panel 1 (human) Control 3	40.6	pg/mL
2	hu IL-1 $\beta$	Calibrator	574	pg/mL
		Proinflammatory Panel 1 (human) Control 1	203	pg/mL
		Proinflammatory Panel 1 (human) Control 2	47.1	pg/mL
		Proinflammatory Panel 1 (human) Control 3	10.9	pg/mL
3	hu IL-2	Calibrator	1400	pg/mL
		Proinflammatory Panel 1 (human) Control 1	390	pg/mL
		Proinflammatory Panel 1 (human) Control 2	38.3	pg/mL
		Proinflammatory Panel 1 (human) Control 3	3.34	pg/mL
4	hu IL-4	Calibrator	218	pg/mL
		Proinflammatory Panel 1 (human) Control 1	102	pg/mL
		Proinflammatory Panel 1 (human) Control 2	20	pg/mL
		Proinflammatory Panel 1 (human) Control 3	3.05	pg/mL
5	hu IL-6	Calibrator	748	pg/mL
		Proinflammatory Panel 1 (human) Control 1	264	pg/mL
		Proinflammatory Panel 1 (human) Control 2	46.8	pg/mL
		Proinflammatory Panel 1 (human) Control 3	8.18	pg/mL
6	hu IL-8	Calibrator	553	pg/mL
		Proinflammatory Panel 1 (human) Control 1	235	pg/mL
		Proinflammatory Panel 1 (human) Control 2	36.2	pg/mL
		Proinflammatory Panel 1 (human) Control 3	5.93	pg/mL
7	hu IL-10	Calibrator	376	pg/mL
		Proinflammatory Panel 1 (human) Control 1	133	pg/mL
		Proinflammatory Panel 1 (human) Control 2	25.3	pg/mL
		Proinflammatory Panel 1 (human) Control 3	3.32	pg/mL
8	hu IL-12p70	Calibrator	551	pg/mL
		Proinflammatory Panel 1 (human) Control 1	186	pg/mL
		Proinflammatory Panel 1 (human) Control 2	35.6	pg/mL
		Proinflammatory Panel 1 (human) Control 3	6.99	pg/mL
9	hu IL-13	Calibrator	503	pg/mL
		Proinflammatory Panel 1 (human) Control 1	170	pg/mL
		Proinflammatory Panel 1 (human) Control 2	43.8	pg/mL
		Proinflammatory Panel 1 (human) Control 3	12.7	pg/mL
10	hu TNF- $\alpha$	Calibrator	323	pg/mL
		Proinflammatory Panel 1 (human) Control 1	92	pg/mL
		Proinflammatory Panel 1 (human) Control 2	17.2	pg/mL
		Proinflammatory Panel 1 (human) Control 3	2.53	pg/mL

Controls tested may not be the same lot as shipped.

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## Standard Curve Data:

hu IFN- $\gamma$ - Spot 1		
Conc. pg/mL	ECL Signal	%CV
1270	203,000	1.0
318	53,700	1.6
79.4	13,500	2.5
19.8	3,520	3.3
4.96	1,110	2.3
1.24	517	4.7
0.310	343	4.5
0.00	294	6.4

hu IL-1 $\beta$ - Spot 2		
Conc. pg/mL	ECL Signal	%CV
574	1,500,000	3.2
144	417,000	2.9
35.9	105,000	1.6
8.97	27,500	2.8
2.24	7,420	2.3
0.561	2,480	2.5
0.140	1,200	2.9
0.00	797	5.6

hu IL-2 - Spot 3		
Conc. pg/mL	ECL Signal	%CV
1400	1,280,000	2.4
350	370,000	1.6
87.5	103,000	1.4
21.9	26,100	1.5
5.47	7,140	4.3
1.37	1,890	2.5
0.342	698	3.8
0.00	281	5.7

hu IL-4 - Spot 4		
Conc. pg/mL	ECL Signal	%CV
218	785,000	1.8
54.5	247,000	1.7
13.6	67,700	2.8
3.41	17,900	2.3
0.852	4,420	3.1
0.213	1,310	2.4
0.0532	451	4.8
0.00	169	21.0

hu IL-6 - Spot 5		
Conc. pg/mL	ECL Signal	%CV
748	1,470,000	2.7
187	363,000	2.6
46.8	81,400	2.1
11.7	19,600	3.2
2.92	4,990	2.1
0.730	1,370	2.5
0.183	485	5.6
0.00	188	4.4

hu IL-8 - Spot 6		
Conc. pg/mL	ECL Signal	%CV
553	690,000	2.6
138	182,000	2.0
34.6	45,200	1.7
8.64	11,700	2.4
2.16	3,160	2.1
0.540	922	2.8
0.135	380	5.2
0.00	193	9.1

hu IL-10 - Spot 7		
Conc. pg/mL	ECL Signal	%CV
376	783,000	1.8
94.0	231,000	1.0
23.5	61,700	1.7
5.88	15,600	2.3
1.47	4,180	1.7
0.367	1,220	2.2
0.0918	516	4.9
0.00	261	9.6

hu IL-12p70 - Spot 8		
Conc. pg/mL	ECL Signal	%CV
551	413,000	3.2
138	129,000	1.8
34.4	35,300	1.5
8.61	9,350	2.7
2.15	2,540	2.9
0.538	862	4.5
0.135	391	7.9
0.00	260	13.0

hu IL-13 - Spot 9		
Conc. pg/mL	ECL Signal	%CV
503	1,240,000	2.4
126	227,000	1.3
31.4	31,800	1.6
7.86	5,220	3.0
1.96	1,290	2.3
0.491	431	5.2
0.123	228	8.0
0.00	152	11.0

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hu TNF- $\alpha$ - Spot 10		
Conc. pg/mL	ECL Signal	%CV
323	305,000	2.9
80.8	78,700	3.4
20.2	19,700	2.9
5.05	5,030	3.6
1.26	1,470	2.7
0.315	590	4.9
0.0789	363	8.6
0.00	294	6.1

### Components:

Description	Lot Number	Storage Temperature	Expiration Date
Proinflammatory Panel 1 (human) Plate	Z0046942	2-8°C	30 Apr 2021
Anti-hu IFN- $\gamma$ Antibody	D0081014	2-8°C	31 Jan 2020
Anti-hu IL-1 $\beta$ Antibody	D0081128	2-8°C	31 Jan 2022
Anti-hu IL-2 Antibody	D0081167	2-8°C	28 Feb 2022
Anti-hu IL-4 Antibody	D0081017	2-8°C	31 Jan 2020
Anti-hu IL-6 Antibody	D0081078	2-8°C	31 Oct 2021
Anti-hu IL-8 Antibody	D0081097	2-8°C	30 Nov 2021
Anti-hu IL-10 Antibody	D0081098	2-8°C	31 Jan 2022
Anti-hu IL-12p70 Antibody	D0081008	2-8°C	30 Nov 2019
Anti-hu IL-13 Antibody	D0081120	2-8°C	31 Jan 2022
Anti-hu TNF- $\alpha$ Antibody	D0081170	2-8°C	28 Feb 2022
Proinflammatory Panel 1 (human) Calibrator Blend	A0080182	2-8°C	30 Sep 2023
Diluent 2	M0020103	$\leq$ -10°C	31 Mar 2021
Diluent 3	M0030085	$\leq$ -10°C	28 Feb 2021
MSD Read Buffer T	Not Kit Specific	Not Kit Specific	N/A

Additional Components Included in V-PLEX Plus	
Wash Buffer (20X), 100mL	Not Kit Specific
Plate Seals	Not Kit Specific
Proinflammatory Panel 1 (human) Control 1	Not Kit Specific
Proinflammatory Panel 1 (human) Control 2	Not Kit Specific
Proinflammatory Panel 1 (human) Control 3	Not Kit Specific

	Name	Function	Signature	Date
<b>Review/Approval</b>	Dawn Stollar	Quality Assurance		05 DEC 2018