

## CERTIFICATE OF ANALYSIS

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**Product Description:** V-PLEX® and V-PLEX Plus Proinflammatory Panel 1 (human) Kit  
**Kit Catalog Numbers:** K15049-Series, K15052-Series, K15053-Series, K15056-Series, 151QR-Series, 151OD-Series  
**Kit Lot Number:** K0081326  
**Expiration Date:** 30 Jun 2021

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

### Acceptance Data/ Non Specific Binding Specifications:

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

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### Stock Concentration of Material Tested :

Spot	Name	Item	Conc	Units
1	IFN- $\gamma$	Calibrator	1330	pg/mL
		Proinflammatory Panel 1 (human) Control 1	544	pg/mL
		Proinflammatory Panel 1 (human) Control 2	146	pg/mL
		Proinflammatory Panel 1 (human) Control 3	37.8	pg/mL
2	IL-1 $\beta$	Calibrator	578	pg/mL
		Proinflammatory Panel 1 (human) Control 1	218	pg/mL
		Proinflammatory Panel 1 (human) Control 2	51.8	pg/mL
		Proinflammatory Panel 1 (human) Control 3	11.9	pg/mL
3	IL-2	Calibrator	1550	pg/mL
		Proinflammatory Panel 1 (human) Control 1	419	pg/mL
		Proinflammatory Panel 1 (human) Control 2	39.6	pg/mL
		Proinflammatory Panel 1 (human) Control 3	3.66	pg/mL
4	IL-4	Calibrator	285	pg/mL
		Proinflammatory Panel 1 (human) Control 1	109	pg/mL
		Proinflammatory Panel 1 (human) Control 2	21.8	pg/mL
		Proinflammatory Panel 1 (human) Control 3	3.4	pg/mL
5	IL-6	Calibrator	752	pg/mL
		Proinflammatory Panel 1 (human) Control 1	273	pg/mL
		Proinflammatory Panel 1 (human) Control 2	48.4	pg/mL
		Proinflammatory Panel 1 (human) Control 3	8.11	pg/mL
6	IL-8	Calibrator	560	pg/mL
		Proinflammatory Panel 1 (human) Control 1	224	pg/mL
		Proinflammatory Panel 1 (human) Control 2	33.8	pg/mL
		Proinflammatory Panel 1 (human) Control 3	6.31	pg/mL
7	IL-10	Calibrator	383	pg/mL
		Proinflammatory Panel 1 (human) Control 1	136	pg/mL
		Proinflammatory Panel 1 (human) Control 2	25.3	pg/mL
		Proinflammatory Panel 1 (human) Control 3	3.81	pg/mL
8	IL-12p70	Calibrator	504	pg/mL
		Proinflammatory Panel 1 (human) Control 1	195	pg/mL
		Proinflammatory Panel 1 (human) Control 2	38.3	pg/mL
		Proinflammatory Panel 1 (human) Control 3	7.56	pg/mL
9	IL-13	Calibrator	500	pg/mL
		Proinflammatory Panel 1 (human) Control 1	172	pg/mL
		Proinflammatory Panel 1 (human) Control 2	47.3	pg/mL
		Proinflammatory Panel 1 (human) Control 3	12.6	pg/mL
10	TNF- $\alpha$	Calibrator	342	pg/mL
		Proinflammatory Panel 1 (human) Control 1	92.5	pg/mL
		Proinflammatory Panel 1 (human) Control 2	16.5	pg/mL
		Proinflammatory Panel 1 (human) Control 3	2.13	pg/mL

Controls tested may not be the same lot as shipped.

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### Standard Curve Data:

IFN- $\gamma$ - Spot 1		
Conc. pg/mL	ECL Signal	%CV
1330	314,000	1.4
333	83,500	1.4
83.1	21,400	3.0
20.8	5,630	1.6
5.20	1,680	3.5
1.30	789	7.8
0.325	448	11.0
0.00	406	15.0

IL-1 $\beta$ - Spot 2		
Conc. pg/mL	ECL Signal	%CV
578	1,320,000	3.2
145	369,000	4.3
36.1	96,700	3.5
9.03	25,100	4.6
2.26	6,940	4.9
0.564	2,310	7.1
0.141	1,200	8.9
0.00	789	9.8

IL-2 - Spot 3		
Conc. pg/mL	ECL Signal	%CV
1550	1,150,000	2.9
388	326,000	2.5
96.9	89,500	3.5
24.2	22,700	3.9
6.05	6,300	3.5
1.51	1,790	5.5
0.378	742	6.1
0.00	298	9.1

IL-4 - Spot 4		
Conc. pg/mL	ECL Signal	%CV
285	1,010,000	2.9
71.3	306,000	3.3
17.8	83,600	3.6
4.45	21,800	2.9
1.11	5,660	4.4
0.278	1,670	7.2
0.0696	595	8.4
0.00	282	24.0

IL-6 - Spot 5		
Conc. pg/mL	ECL Signal	%CV
752	1,020,000	2.5
188	239,000	2.6
47.0	53,400	3.9
11.8	12,200	4.1
2.94	3,310	3.6
0.734	1,010	5.5
0.184	460	10.0
0.00	254	17.0

IL-8 - Spot 6		
Conc. pg/mL	ECL Signal	%CV
560	758,000	4.3
140	195,000	4.3
35.0	50,600	4.5
8.75	12,700	3.9
2.19	3,590	3.9
0.547	1,080	4.0
0.137	489	8.3
0.00	252	12.0

IL-10 - Spot 7		
Conc. pg/mL	ECL Signal	%CV
383	633,000	2.6
95.8	189,000	2.0
23.9	50,200	3.4
5.98	13,200	2.0
1.50	3,590	2.9
0.374	1,170	5.3
0.0935	551	9.2
0.00	292	8.9

IL-12p70 - Spot 8		
Conc. pg/mL	ECL Signal	%CV
504	334,000	4.6
126	100,000	2.3
31.5	26,900	5.5
7.88	7,070	3.7
1.97	2,000	4.1
0.492	729	8.1
0.123	436	11.0
0.00	342	20.0

IL-13 - Spot 9		
Conc. pg/mL	ECL Signal	%CV
500	1,120,000	2.9
125	201,000	2.8
31.3	27,200	3.3
7.81	4,260	2.8
1.95	1,080	3.5
0.488	390	8.0
0.122	231	8.8
0.00	171	14.0

TNF- $\alpha$ - Spot 10		
Conc. pg/mL	ECL Signal	%CV
342	311,000	4.1
85.5	74,500	4.3
21.4	19,400	3.9
5.34	4,820	4.0
1.34	1,490	3.7
0.334	600	4.7
0.0835	372	7.7
0.00	281	9.0

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**Components:**

Description	Lot Number	Storage Temperature	Expiration Date
Proinflammatory Panel 1 (human) Plate	Z0047119	2-8°C	30 Nov 2021
Anti-hu IFN- $\gamma$ Antibody	D0081304	2-8°C	31 Oct 2022
Anti-hu IL-1 $\beta$ Antibody	D0081274	2-8°C	31 Aug 2022
Anti-hu IL-2 Antibody	D0081305	2-8°C	31 Oct 2022
Anti-hu IL-4 Antibody	D0081183	2-8°C	30 Jun 2022
Anti-hu IL-6 Antibody	D0081311	2-8°C	30 Nov 2022
Anti-hu IL-8 Antibody	D0081255	2-8°C	31 Jul 2022
Anti-hu IL-10 Antibody	D0081211	2-8°C	31 May 2022
Anti-hu IL-12p70 Antibody	D0081307	2-8°C	31 Oct 2022
Anti-hu IL-13 Antibody	D0081169	2-8°C	30 Apr 2022
Anti-hu TNF- $\alpha$ Antibody	D0081308	2-8°C	31 Oct 2022
Proinflammatory Panel 1 (human) Calibrator Blend	A0080217	2-8°C	30 Jun 2024
Diluent 2	M0020104	$\leq -10^{\circ}\text{C}$	30 Jun 2021
Diluent 3	M0030089	$\leq -10^{\circ}\text{C}$	30 Sep 2021
MSD Read Buffer T	Not Kit Specific	Not Kit Specific	N/A

Additional Components Included in V-PLEX Plus	
Plate Seals	Not Kit Specific
Wash Buffer (20X), 100 mL	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

**Statement:**

The above product is intended for Research Use Only. Not for use in Diagnostic Procedures.

	Name	Function	Signature	Date
<b>Review/Approval</b>	Karen Hamilla	Quality		02 OCT 2019