

### CERTIFICATE OF ANALYSIS

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**Product Description:** V-PLEX® and V-PLEX Plus Proinflammatory Panel 1 (human) Kit  
**Kit Catalog Numbers:** K151QR-Series; K151OD-Series; K15049-Series; K15052-Series; K15053-Series; K15056-Series  
**Kit Lot Number:** K0081292  
**Expiration Date:** 31 Oct 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	1460	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	586	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	1500	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	263	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	732	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	575	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	464	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	482	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	362	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
1460	308,000	1.6
365	80,800	2.1
91.3	20,200	3.0
22.8	5,200	2.7
5.70	1,490	3.0
1.43	585	3.7
0.356	358	8.9
0.00	295	9.8

IL-1 $\beta$ - Spot 2		
Conc. pg/mL	ECL Signal	%CV
586	1,370,000	2.0
147	374,000	1.7
36.6	94,400	1.9
9.16	23,900	1.8
2.29	6,290	3.0
0.572	2,060	3.3
0.143	994	8.2
0.00	638	6.5

IL-2 - Spot 3		
Conc. pg/mL	ECL Signal	%CV
1500	1,110,000	1.8
375	315,000	1.9
93.8	83,900	2.1
23.4	21,100	2.7
5.86	5,580	3.8
1.46	1,540	3.0
0.366	560	4.8
0.00	252	7.6

IL-4 - Spot 4		
Conc. pg/mL	ECL Signal	%CV
263	919,000	3.6
65.8	278,000	3.2
16.4	72,300	6.9
4.11	19,100	2.9
1.03	4,820	4.4
0.257	1,380	3.6
0.0642	458	5.5
0.00	180	20.0

IL-6 - Spot 5		
Conc. pg/mL	ECL Signal	%CV
732	933,000	2.4
183	214,000	2.0
45.8	44,100	1.7
11.4	10,500	2.1
2.86	2,590	2.4
0.715	804	2.0
0.179	329	6.1
0.00	190	9.3

IL-8 - Spot 6		
Conc. pg/mL	ECL Signal	%CV
575	759,000	3.2
144	196,000	3.4
35.9	47,800	2.8
8.98	12,300	2.8
2.25	3,120	2.9
0.562	978	3.6
0.140	385	5.0
0.00	270	25.0

IL-10 - Spot 7		
Conc. pg/mL	ECL Signal	%CV
383	648,000	1.9
95.8	191,000	1.1
23.9	49,400	1.4
5.98	12,500	2.2
1.50	3,300	1.8
0.374	1,040	2.7
0.0935	449	5.9
0.00	279	7.6

IL-12p70 - Spot 8		
Conc. pg/mL	ECL Signal	%CV
464	301,000	3.8
116	87,400	2.7
29.0	23,300	2.2
7.25	6,070	3.6
1.81	1,760	7.5
0.453	657	16.0
0.113	471	38.0
0.00	427	56.0

IL-13 - Spot 9		
Conc. pg/mL	ECL Signal	%CV
482	1,040,000	3.1
121	182,000	2.1
30.1	24,600	1.9
7.53	3,960	2.4
1.88	1,030	3.7
0.471	341	7.4
0.118	204	22.0
0.00	147	25.0

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TNF- $\alpha$ - Spot 10		
Conc. pg/mL	ECL Signal	%CV
362	316,000	4.1
90.5	77,900	2.5
22.6	18,900	3.7
5.66	4,680	3.8
1.41	1,410	2.9
0.354	578	4.1
0.0884	361	7.0
0.00	304	16.0


**Components:**

Description	Lot Number	Storage Temperature	Expiration Date
Proinflammatory Panel 1 (human) Plate	Z0047146	2-8°C	31 Dec 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	D0081167	2-8°C	28 Feb 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	D0081168	2-8°C	30 Apr 2022
Anti-hu IL-10 Antibody	D0081306	2-8°C	31 Oct 2022
Anti-hu IL-12p70 Antibody	D0081307	2-8°C	31 Oct 2022
Anti-hu IL-13 Antibody	D0081092	2-8°C	31 Oct 2021
Anti-hu TNF- $\alpha$ Antibody	D0081308	2-8°C	31 Oct 2022
Proinflammatory Panel 1 (human) Calibrator Blend	A0080225	2-8°C	31 Aug 2024
Diluent 2	M0020108	$\leq$ -10°C	28 Feb 2022
Diluent 3	M0030090	$\leq$ -10°C	31 Dec 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), 100mL	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		28 OCT 2019