

## 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:** K0081301  
**Expiration Date:** 31 Dec 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	287,000	2.7
365	75,700	1.7
91.3	19,300	2.4
22.8	4,980	3.2
5.70	1,470	2.2
1.43	637	4.3
0.356	424	6.0
0.00	368	8.0

IL-1 $\beta$ - Spot 2		
Conc. pg/mL	ECL Signal	%CV
586	1,110,000	5.5
147	308,000	2.7
36.6	79,100	1.8
9.16	20,600	3.4
2.29	6,250	2.8
0.572	2,620	3.0
0.143	1,710	5.4
0.00	1,430	6.5

IL-2 - Spot 3		
Conc. pg/mL	ECL Signal	%CV
1500	1,070,000	3.3
375	304,000	3.0
93.8	82,500	2.5
23.4	20,600	2.3
5.86	5,530	2.4
1.46	1,560	2.8
0.366	645	3.0
0.00	329	5.6

IL-4 - Spot 4		
Conc. pg/mL	ECL Signal	%CV
263	816,000	4.5
65.8	253,000	5.3
16.4	69,700	2.8
4.11	18,100	5.4
1.03	4,460	5.5
0.257	1,330	6.1
0.0642	465	6.7
0.00	208	16.0

IL-6 - Spot 5		
Conc. pg/mL	ECL Signal	%CV
732	928,000	3.2
183	214,000	3.2
45.8	45,000	2.4
11.4	10,800	2.1
2.86	2,710	2.1
0.715	830	4.1
0.179	344	3.7
0.00	197	9.0

IL-8 - Spot 6		
Conc. pg/mL	ECL Signal	%CV
575	682,000	2.8
144	173,000	3.2
35.9	45,100	1.9
8.98	11,400	3.0
2.25	3,010	2.3
0.562	941	1.9
0.140	418	5.5
0.00	248	8.0

IL-10 - Spot 7		
Conc. pg/mL	ECL Signal	%CV
383	619,000	1.1
95.8	182,000	1.5
23.9	48,000	1.7
5.98	12,100	1.5
1.50	3,310	2.3
0.374	1,090	2.5
0.0935	523	6.0
0.00	344	7.8

IL-12p70 - Spot 8		
Conc. pg/mL	ECL Signal	%CV
464	320,000	4.6
116	95,100	1.7
29.0	25,600	2.1
7.25	6,630	3.2
1.81	1,920	8.8
0.453	782	15.0
0.113	452	25.0
0.00	378	25.0

IL-13 - Spot 9		
Conc. pg/mL	ECL Signal	%CV
482	1,060,000	2.6
121	185,000	2.7
30.1	24,300	2.1
7.53	3,800	3.3
1.88	998	3.2
0.471	354	6.0
0.118	194	12.0
0.00	159	9.5

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TNF- $\alpha$ - Spot 10		
Conc. pg/mL	ECL Signal	%CV
362	304,000	2.6
90.5	73,300	2.6
22.6	18,500	2.8
5.66	4,650	3.3
1.41	1,460	4.1
0.354	591	5.3
0.0884	383	5.1
0.00	344	13.0


**Components:**

Description	Lot Number	Storage Temperature	Expiration Date
Proinflammatory Panel 1 (human) Plate	Z0047152	2-8°C	31 Jan 2022
Anti-hu IFN- $\gamma$ Antibody	D0081318	2-8°C	31 Mar 2023
Anti-hu IL-1 $\beta$ Antibody	D0081319	2-8°C	31 Dec 2022
Anti-hu IL-2 Antibody	D0081305	2-8°C	31 Oct 2022
Anti-hu IL-4 Antibody	D0081302	2-8°C	30 Sep 2022
Anti-hu IL-6 Antibody	D0081311	2-8°C	30 Nov 2022
Anti-hu IL-8 Antibody	D0081321	2-8°C	31 Dec 2022
Anti-hu IL-10 Antibody	D0081306	2-8°C	31 Oct 2022
Anti-hu IL-12p70 Antibody	D0081212	2-8°C	31 May 2022
Anti-hu IL-13 Antibody	D0081344	2-8°C	28 Feb 2023
Anti-hu TNF- $\alpha$ Antibody	D0081324	2-8°C	31 Dec 2022
Proinflammatory Panel 1 (human) Calibrator Blend	A0080225	2-8°C	31 Aug 2024
Diluent 2	M0020109	$\leq$ -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
Review/Approval	Karen Hamilla	Quality		25 OCT 2019