

## 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; K15348-Series; K15346-Series; K15349-Series; K15345-Series  
**Kit Lot Number:** K0081452  
**Expiration Date:** 31 Jul 2022

**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	1500	pg/mL
		Proinflammatory Panel 1 (human) Control 1	546	pg/mL
		Proinflammatory Panel 1 (human) Control 2	167	pg/mL
		Proinflammatory Panel 1 (human) Control 3	32.2	pg/mL
2	IL-1 $\beta$	Calibrator	610	pg/mL
		Proinflammatory Panel 1 (human) Control 1	209	pg/mL
		Proinflammatory Panel 1 (human) Control 2	49.7	pg/mL
		Proinflammatory Panel 1 (human) Control 3	10	pg/mL
3	IL-2	Calibrator	1360	pg/mL
		Proinflammatory Panel 1 (human) Control 1	384	pg/mL
		Proinflammatory Panel 1 (human) Control 2	37.7	pg/mL
		Proinflammatory Panel 1 (human) Control 3	2.96	pg/mL
4	IL-4	Calibrator	211	pg/mL
		Proinflammatory Panel 1 (human) Control 1	109	pg/mL
		Proinflammatory Panel 1 (human) Control 2	20.2	pg/mL
		Proinflammatory Panel 1 (human) Control 3	3.11	pg/mL
5	IL-6	Calibrator	690	pg/mL
		Proinflammatory Panel 1 (human) Control 1	289	pg/mL
		Proinflammatory Panel 1 (human) Control 2	49.1	pg/mL
		Proinflammatory Panel 1 (human) Control 3	7.89	pg/mL
6	IL-8	Calibrator	612	pg/mL
		Proinflammatory Panel 1 (human) Control 1	220	pg/mL
		Proinflammatory Panel 1 (human) Control 2	33.2	pg/mL
		Proinflammatory Panel 1 (human) Control 3	5.42	pg/mL
7	IL-10	Calibrator	356	pg/mL
		Proinflammatory Panel 1 (human) Control 1	135	pg/mL
		Proinflammatory Panel 1 (human) Control 2	24.8	pg/mL
		Proinflammatory Panel 1 (human) Control 3	3.62	pg/mL
8	IL-12p70	Calibrator	464	pg/mL
		Proinflammatory Panel 1 (human) Control 1	158	pg/mL
		Proinflammatory Panel 1 (human) Control 2	31.4	pg/mL
		Proinflammatory Panel 1 (human) Control 3	5.92	pg/mL
9	IL-13	Calibrator	509	pg/mL
		Proinflammatory Panel 1 (human) Control 1	121	pg/mL
		Proinflammatory Panel 1 (human) Control 2	40.3	pg/mL
		Proinflammatory Panel 1 (human) Control 3	13.2	pg/mL
10	TNF- $\alpha$	Calibrator	367	pg/mL
		Proinflammatory Panel 1 (human) Control 1	110	pg/mL
		Proinflammatory Panel 1 (human) Control 2	16.4	pg/mL
		Proinflammatory Panel 1 (human) Control 3	2.37	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
1500	414,000	1.6
375	114,000	1.7
93.8	29,100	1.6
23.4	7,670	2.7
5.86	2,270	3.7
1.46	925	8.1
0.366	529	16.0
0.00	503	25.0

IL-1 $\beta$ - Spot 2		
Conc. pg/mL	ECL Signal	%CV
610	1,730,000	2.0
153	474,000	2.2
38.1	125,000	2.2
9.53	32,500	3.0
2.38	9,190	4.0
0.596	3,110	3.5
0.149	1,710	9.5
0.00	1,230	23.0

IL-2 - Spot 3		
Conc. pg/mL	ECL Signal	%CV
1360	1,120,000	2.4
340	314,000	3.4
85.0	85,200	3.5
21.3	21,700	4.1
5.31	6,050	4.4
1.33	1,810	6.1
0.332	850	11.0
0.00	440	18.0

IL-4 - Spot 4		
Conc. pg/mL	ECL Signal	%CV
211	875,000	3.5
52.8	261,000	2.4
13.2	70,400	2.3
3.30	18,100	3.2
0.824	4,850	4.1
0.206	1,460	5.3
0.0515	561	13.0
0.00	331	30.0

IL-6 - Spot 5		
Conc. pg/mL	ECL Signal	%CV
690	850,000	2.4
173	184,000	2.5
43.1	38,600	3.9
10.8	8,860	4.4
2.70	2,410	4.3
0.674	814	8.6
0.168	369	11.0
0.00	296	17.0

IL-8 - Spot 6		
Conc. pg/mL	ECL Signal	%CV
612	828,000	3.4
153	209,000	4.4
38.3	53,500	3.7
9.56	13,400	4.3
2.39	3,740	3.5
0.598	1,140	5.6
0.149	504	11.0
0.00	258	15.0

IL-10 - Spot 7		
Conc. pg/mL	ECL Signal	%CV
356	790,000	1.4
89.0	229,000	1.6
22.3	61,400	2.3
5.56	15,500	2.5
1.39	4,230	2.7
0.348	1,320	4.7
0.0869	605	13.0
0.00	332	16.0

IL-12p70 - Spot 8		
Conc. pg/mL	ECL Signal	%CV
464	360,000	4.6
116	109,000	2.6
29.0	29,300	2.7
7.25	7,530	2.2
1.81	2,130	2.4
0.453	703	4.8
0.113	329	7.9
0.00	256	20.0

IL-13 - Spot 9		
Conc. pg/mL	ECL Signal	%CV
509	842,000	3.2
127	138,000	1.5
31.8	16,300	3.2
7.95	2,210	2.9
1.99	609	5.5
0.497	280	7.0
0.124	189	14.0
0.00	173	19.0

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TNF- $\alpha$ - Spot 10		
Conc. pg/mL	ECL Signal	%CV
367	406,000	2.5
91.8	97,000	2.2
22.9	24,600	4.6
5.73	6,060	3.1
1.43	1,850	3.4
0.358	671	4.8
0.0896	385	5.3
0.00	288	14.0


**Components:**

Description	Lot Number	Storage Temperature	Expiration Date
Proinflammatory Panel 1 (human) Plate	Z0047291	2-8°C	31 Aug 2022
Anti-hu IFN- $\gamma$ Antibody	D0081426	2-8°C	30 Jun 2023
Anti-hu IL-1 $\beta$ Antibody	D0081319	2-8°C	31 Dec 2022
Anti-hu IL-2 Antibody	D0081338	2-8°C	31 Jan 2023
Anti-hu IL-4 Antibody	D0081302	2-8°C	30 Sep 2022
Anti-hu IL-6 Antibody	D0081398	2-8°C	30 Apr 2023
Anti-hu IL-8 Antibody	D0081399	2-8°C	30 Jun 2023
Anti-hu IL-10 Antibody	D0081437	2-8°C	30 Jun 2023
Anti-hu IL-12p70 Antibody	D0081339	2-8°C	31 Jan 2023
Anti-hu IL-13 Antibody	D0081381	2-8°C	31 Mar 2023
Anti-hu TNF- $\alpha$ Antibody	D0081438	2-8°C	30 Jun 2023
Proinflammatory Panel 1 (human) Calibrator Blend	A0080242	2-8°C	31 Mar 2025
Diluent 2	M0020112	$\leq$ -10°C	31 Jul 2022
Diluent 3	M0030097	$\leq$ -10°C	31 Aug 2022
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		14 MAY 2020