

## CERTIFICATE OF ANALYSIS

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**Product Description:** V-PLEX® and V-PLEX Plus Cytokine Panel 1 (mouse) Kit

**Kit Catalog Numbers:** K15245-Series

**Kit Lot Number:** K0081297

**Expiration Date:** 28 Feb 2022

**Acceptance Data/ Percent Recovery Specifications:**

Spot	Name	Calibrator		Cytokine Panel 1 (mouse) Control 1		Cytokine Panel 1 (mouse) Control 2		Cytokine Panel 1 (mouse) Control 3	
		Recovery	CV	Recovery	CV	Recovery	CV	Recovery	CV
1	IL-9	80% - 120%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%
2	MCP-1	80% - 120%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%
3	IL-33	80% - 120%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%
4	IL-27p28/IL-30	80% - 120%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%
5	IL-15	80% - 120%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%
6	IL-17A/F	80% - 120%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%
7	MIP-1 $\alpha$	80% - 120%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%
8	IP-10	80% - 120%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%
9	MIP-2	80% - 120%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%

Spot	Name	LLOQ			ULOQ		
		Value	Recovery	CV	Value	Recovery	CV
1	IL-9	21.9	75% - 125%	< 20%	2600	75% - 125%	< 20%
2	MCP-1	4.42	75% - 125%	< 20%	325	75% - 125%	< 20%
3	IL-33	1.85	75% - 125%	< 20%	1950	75% - 125%	< 20%
4	IL-27p28/IL-30	5.91	75% - 125%	< 20%	6500	75% - 125%	< 20%
5	IL-15	43.2	75% - 125%	< 20%	26000	75% - 125%	< 20%
6	IL-17A/F	1.39	75% - 125%	< 20%	1620	75% - 125%	< 20%
7	MIP-1 $\alpha$	0.378	75% - 125%	< 20%	390	75% - 125%	< 20%
8	IP-10	2.15	75% - 125%	< 20%	650	75% - 125%	< 20%
9	MIP-2	0.577	75% - 125%	< 20%	423	75% - 125%	< 20%

**Acceptance Data/ Non Specific Binding Specifications:**

Spot	Name	NSB Spec
1	IL-9	< 1.0%
2	MCP-1	< 1.0%
3	IL-33	< 1.0%
4	IL-27p28/IL-30	< 1.0%
5	IL-15	< 1.0%
6	IL-17A/F	< 1.0%
7	MIP-1 $\alpha$	< 1.0%
8	IP-10	< 1.0%
9	MIP-2	< 1.0%

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### Stock Concentration of Material Tested :

Spot	Name	Item	Conc	Units
1	IL-9	Calibrator	3720	pg/mL
		Cytokine Panel 1(mouse) Control 1	3480	pg/mL
		Cytokine Panel 1(mouse) Control 2	809	pg/mL
		Cytokine Panel 1(mouse) Control 3	204	pg/mL
2	MCP-1	Calibrator	447	pg/mL
		Cytokine Panel 1(mouse) Control 1	439	pg/mL
		Cytokine Panel 1(mouse) Control 2	133	pg/mL
		Cytokine Panel 1(mouse) Control 3	55.3	pg/mL
3	IL-33	Calibrator	3010	pg/mL
		Cytokine Panel 1(mouse) Control 1	2350	pg/mL
		Cytokine Panel 1(mouse) Control 2	274	pg/mL
		Cytokine Panel 1(mouse) Control 3	35.8	pg/mL
4	IL-27p28/IL-30	Calibrator	8830	pg/mL
		Cytokine Panel 1(mouse) Control 1	6980	pg/mL
		Cytokine Panel 1(mouse) Control 2	1030	pg/mL
		Cytokine Panel 1(mouse) Control 3	141	pg/mL
5	IL-15	Calibrator	39400	pg/mL
		Cytokine Panel 1(mouse) Control 1	27400	pg/mL
		Cytokine Panel 1(mouse) Control 2	4210	pg/mL
		Cytokine Panel 1(mouse) Control 3	724	pg/mL
6	IL-17A/F	Calibrator	2380	pg/mL
		Cytokine Panel 1(mouse) Control 1	2130	pg/mL
		Cytokine Panel 1(mouse) Control 2	205	pg/mL
		Cytokine Panel 1(mouse) Control 3	17.7	pg/mL
7	MIP-1 $\alpha$	Calibrator	739	pg/mL
		Cytokine Panel 1(mouse) Control 1	771	pg/mL
		Cytokine Panel 1(mouse) Control 2	64.2	pg/mL
		Cytokine Panel 1(mouse) Control 3	5.27	pg/mL
8	IP-10	Calibrator	1100	pg/mL
		Cytokine Panel 1(mouse) Control 1	857	pg/mL
		Cytokine Panel 1(mouse) Control 2	228	pg/mL
		Cytokine Panel 1(mouse) Control 3	69.8	pg/mL
9	MIP-2	Calibrator	559	pg/mL
		Cytokine Panel 1(mouse) Control 1	549	pg/mL
		Cytokine Panel 1(mouse) Control 2	65	pg/mL
		Cytokine Panel 1(mouse) Control 3	8.81	pg/mL

Controls tested may not be the same lot as shipped.

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### Standard Curve Data:

IL-9 - Spot 1		
Conc. pg/mL	ECL Signal	%CV
3720	516,000	2.9
930	144,000	2.5
233	32,300	2.1
58.1	7,960	3.0
14.5	2,640	5.7
3.63	1,310	7.7
0.908	995	9.1
0.00	900	11.0

MCP-1 - Spot 2		
Conc. pg/mL	ECL Signal	%CV
447	842,000	4.9
112	115,000	3.9
27.9	15,900	3.6
6.98	2,880	3.7
1.75	956	6.4
0.437	480	7.0
0.109	359	7.4
0.00	323	14.0

IL-33 - Spot 3		
Conc. pg/mL	ECL Signal	%CV
3010	776,000	5.0
753	256,000	3.6
188	69,000	3.6
47.0	17,200	3.7
11.8	4,760	4.6
2.94	1,440	3.3
0.735	608	5.5
0.00	341	17.0

IL-27p28/IL-30 - Spot 4		
Conc. pg/mL	ECL Signal	%CV
8830	539,000	3.2
2210	189,000	2.7
552	50,400	2.6
138	13,000	1.9
34.5	3,470	2.8
8.62	1,120	3.7
2.16	470	6.3
0.00	272	16.0

IL-15 - Spot 5		
Conc. pg/mL	ECL Signal	%CV
39400	224,000	4.3
9850	98,300	3.4
2460	27,900	3.7
616	6,860	2.1
154	2,050	4.0
38.5	970	2.9
9.62	665	4.0
0.00	574	4.4

IL-17A/F - Spot 6		
Conc. pg/mL	ECL Signal	%CV
2380	850,000	2.5
595	240,000	3.6
149	61,100	4.4
37.2	14,700	4.9
9.30	4,260	3.7
2.32	1,240	4.3
0.581	503	5.0
0.00	283	20.0

MIP-1a - Spot 7		
Conc. pg/mL	ECL Signal	%CV
739	1,520,000	2.2
185	390,000	2.8
46.2	93,600	3.6
11.5	22,700	3.6
2.89	5,980	2.6
0.722	1,740	2.9
0.180	637	4.5
0.00	340	26.0

IP-10 - Spot 8		
Conc. pg/mL	ECL Signal	%CV
1100	668,000	4.3
275	217,000	3.1
68.8	57,300	3.4
17.2	14,700	3.4
4.30	4,010	4.5
1.07	1,380	5.9
0.269	717	11.0
0.00	520	19.0

MIP-2 - Spot 9		
Conc. pg/mL	ECL Signal	%CV
559	587,000	1.8
140	160,000	1.7
34.9	41,400	2.0
8.73	10,300	3.1
2.18	2,820	2.6
0.546	901	4.7
0.136	407	9.2
0.00	230	17.0

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**Components:**

Description	Lot Number	Storage Temperature	Expiration Date
Cytokine Panel 1 (mouse) Plate	Z0047150	2-8°C	28 Feb 2022
Anti-ms IL-9 Antibody	D0081325	2-8°C	30 Jun 2023
Anti-ms MCP-1 Antibody	D0081326	2-8°C	31 Mar 2023
Anti-ms IL-33 Antibody	D0081327	2-8°C	31 Dec 2022
Anti-ms IL-27p28/IL-30 Antibody	D0081328	2-8°C	31 Dec 2022
Anti-ms IL-15 Antibody	D0081297	2-8°C	30 Sep 2022
Anti-ms IL-17A/F Antibody	D0081329	2-8°C	28 Feb 2023
Anti-ms MIP-1 $\alpha$ Antibody	D0081330	2-8°C	30 Jun 2023
Anti-ms IP-10 Antibody	D0081331	2-8°C	31 Mar 2023
Anti-ms MIP-2 Antibody	D0081332	2-8°C	31 Jan 2023
Cytokine Panel 1 (mouse) Calibrator Blend	A0080218	2-8°C	31 Oct 2024
Diluent 41	M0410030	$\leq -10^{\circ}\text{C}$	31 Mar 2022
Diluent 45	M0450030	$\leq -10^{\circ}\text{C}$	28 Feb 2022
MSD Read Buffer T	Not Kit Specific	Not Kit Specific	N/A

Additional Components Included in V-PLEX Plus	
MSD Wash Buffer (20X), 100mL	Not Kit Specific
Plate Seals	Not Kit Specific
Cytokine Panel 1(mouse) Control 1	Not Kit Specific
Cytokine Panel 1(mouse) Control 2	Not Kit Specific
Cytokine Panel 1(mouse) 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		21 FEB 2020