

## 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:** K0081363  
**Expiration Date:** 31 May 2021

**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	3730	pg/mL
		Cytokine Panel 1(mouse) Control 1	3680	pg/mL
		Cytokine Panel 1(mouse) Control 2	835	pg/mL
		Cytokine Panel 1(mouse) Control 3	232	pg/mL
2	MCP-1	Calibrator	426	pg/mL
		Cytokine Panel 1(mouse) Control 1	443	pg/mL
		Cytokine Panel 1(mouse) Control 2	135	pg/mL
		Cytokine Panel 1(mouse) Control 3	56	pg/mL
3	IL-33	Calibrator	3050	pg/mL
		Cytokine Panel 1(mouse) Control 1	2430	pg/mL
		Cytokine Panel 1(mouse) Control 2	286	pg/mL
		Cytokine Panel 1(mouse) Control 3	38.3	pg/mL
4	IL-27p28/IL-30	Calibrator	7940	pg/mL
		Cytokine Panel 1(mouse) Control 1	7620	pg/mL
		Cytokine Panel 1(mouse) Control 2	1110	pg/mL
		Cytokine Panel 1(mouse) Control 3	161	pg/mL
5	IL-15	Calibrator	36000	pg/mL
		Cytokine Panel 1(mouse) Control 1	28500	pg/mL
		Cytokine Panel 1(mouse) Control 2	4280	pg/mL
		Cytokine Panel 1(mouse) Control 3	764	pg/mL
6	IL-17A/F	Calibrator	2370	pg/mL
		Cytokine Panel 1(mouse) Control 1	2220	pg/mL
		Cytokine Panel 1(mouse) Control 2	212	pg/mL
		Cytokine Panel 1(mouse) Control 3	18.6	pg/mL
7	MIP-1 $\alpha$	Calibrator	601	pg/mL
		Cytokine Panel 1(mouse) Control 1	801	pg/mL
		Cytokine Panel 1(mouse) Control 2	67.9	pg/mL
		Cytokine Panel 1(mouse) Control 3	5.96	pg/mL
8	IP-10	Calibrator	896	pg/mL
		Cytokine Panel 1(mouse) Control 1	947	pg/mL
		Cytokine Panel 1(mouse) Control 2	245	pg/mL
		Cytokine Panel 1(mouse) Control 3	77.9	pg/mL
9	MIP-2	Calibrator	596	pg/mL
		Cytokine Panel 1(mouse) Control 1	563	pg/mL
		Cytokine Panel 1(mouse) Control 2	67.5	pg/mL
		Cytokine Panel 1(mouse) Control 3	9.71	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
3730	440,000	2.4
933	118,000	6.0
233	24,000	4.5
58.3	5,940	4.1
14.6	1,860	5.6
3.64	927	8.3
0.911	639	11.0
0.00	580	11.0

MCP-1 - Spot 2		
Conc. pg/mL	ECL Signal	%CV
426	835,000	2.9
107	107,000	2.2
26.6	14,300	4.1
6.66	2,720	3.7
1.66	886	3.2
0.416	463	3.8
0.104	356	6.3
0.00	310	6.1

IL-33 - Spot 3		
Conc. pg/mL	ECL Signal	%CV
3050	982,000	4.1
763	301,000	2.0
191	78,600	2.6
47.7	19,800	2.8
11.9	5,290	3.8
2.98	1,680	2.1
0.745	787	5.7
0.00	478	6.9

IL-27p28/IL-30 - Spot 4		
Conc. pg/mL	ECL Signal	%CV
7940	705,000	2.9
1990	243,000	3.1
496	62,600	3.1
124	16,300	4.1
31.0	4,120	2.5
7.75	1,310	4.5
1.94	535	5.7
0.00	283	9.3

IL-15 - Spot 5		
Conc. pg/mL	ECL Signal	%CV
36000	317,000	3.3
9000	133,000	3.1
2250	37,800	3.8
563	8,780	4.3
141	2,420	4.8
35.2	964	3.9
8.79	614	4.8
0.00	488	6.8

IL-17A/F - Spot 6		
Conc. pg/mL	ECL Signal	%CV
2370	1,080,000	2.3
593	301,000	2.2
148	74,400	3.0
37.0	18,800	2.1
9.26	4,900	2.8
2.31	1,410	1.8
0.579	546	5.5
0.00	253	6.5

MIP-1 $\alpha$ - Spot 7		
Conc. pg/mL	ECL Signal	%CV
601	1,220,000	2.4
150	288,000	2.9
37.6	67,900	2.9
9.39	16,800	4.5
2.35	4,300	4.1
0.587	1,280	4.0
0.147	497	6.2
0.00	250	11.0

IP-10 - Spot 8		
Conc. pg/mL	ECL Signal	%CV
896	886,000	4.4
224	270,000	3.3
56.0	71,300	2.7
14.0	18,000	1.9
3.50	4,780	5.1
0.875	1,530	7.4
0.219	688	24.0
0.00	656	44.0

MIP-2 - Spot 9		
Conc. pg/mL	ECL Signal	%CV
596	1,070,000	2.2
149	288,000	2.0
37.3	74,300	2.3
9.31	18,500	2.9
2.33	4,750	2.8
0.582	1,370	2.8
0.146	516	5.7
0.00	240	8.7

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**Components:**

Description	Lot Number	Storage Temperature	Expiration Date
Cytokine Panel 1(mouse) Plate	Z0046957	2-8°C	31 May 2021
Anti-ms IL-9 Antibody	D0081213	2-8°C	31 May 2022
Anti-ms MCP-1 Antibody	D0081214	2-8°C	31 Jul 2022
Anti-ms IL-33 Antibody	D0081215	2-8°C	31 Jul 2022
Anti-ms IL-27p28/IL-30 Antibody	D0081216	2-8°C	31 Jul 2022
Anti-ms IL-15 Antibody	D0081114	2-8°C	31 Dec 2021
Anti-ms IL-17A/F Antibody	D0081115	2-8°C	31 Dec 2021
Anti-ms MIP-1α Antibody	D0081217	2-8°C	31 Jul 2022
Anti-ms IP-10 Antibody	D0081331	2-8°C	31 Mar 2023
Anti-ms MIP-2 Antibody	D0081219	2-8°C	31 May 2022
Cytokine Panel 1 (mouse) Calibrator Blend	A0080156	2-8°C	31 Mar 2023
Diluent 41	M0410026	≤ -10°C	30 Jun 2021
Diluent 45	M0450025	≤ -10°C	31 May 2021
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		07 JAN 2020