

CERTIFICATE OF ANALYSIS

Page 1 of 4

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

Kit Catalog Numbers: K15245-Series

Kit Lot Number: K0080806

Expiration Date: 31 Aug 2019

Acceptance Data/ Percent Recovery Specifications:

Spot	Name	Calibrator		Cytokine Panel (mouse) Control 1		Cytokine Panel (mouse) Control 2		Cytokine Panel (mouse) Control 3	
		Recovery	CV	Recovery	CV	Recovery	CV	Recovery	CV
1	ms IL-9	80% - 120%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%
2	ms MCP-1	80% - 120%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%
3	ms IL-33	80% - 120%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%
4	ms IL-27p28/IL-30	80% - 120%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%
5	ms IL-15	80% - 120%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%
6	ms IL-17A/F	80% - 120%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%
7	ms MIP-1 α	80% - 120%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%
8	ms IP-10	80% - 120%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%
9	ms 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	ms IL-9	21.9	75% - 125%	< 20%	2600	75% - 125%	< 20%
2	ms MCP-1	4.42	75% - 125%	< 20%	325	75% - 125%	< 20%
3	ms IL-33	1.85	75% - 125%	< 20%	1950	75% - 125%	< 20%
4	ms IL-27p28/IL-30	5.91	75% - 125%	< 20%	6500	75% - 125%	< 20%
5	ms IL-15	43.2	75% - 125%	< 20%	26000	75% - 125%	< 20%
6	ms IL-17A/F	1.39	75% - 125%	< 20%	1620	75% - 125%	< 20%
7	ms MIP-1 α	0.378	75% - 125%	< 20%	390	80% - 120%	< 20%
8	ms IP-10	2.15	75% - 125%	< 20%	650	75% - 125%	< 20%
9	ms MIP-2	0.577	75% - 125%	< 20%	423	75% - 125%	< 20%

Acceptance Data/ Non Specific Binding Specifications:

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

CERTIFICATE OF ANALYSIS
Stock Concentration of Material Tested :

Spot	Name	Item	Conc	Units
1	ms IL-9	Calibrator	3860	pg/mL
		Cytokine Panel (mouse) Control 1	3569	pg/mL
		Cytokine Panel (mouse) Control 2	872	pg/mL
		Cytokine Panel (mouse) Control 3	202	pg/mL
2	ms MCP-1	Calibrator	491	pg/mL
		Cytokine Panel (mouse) Control 1	458	pg/mL
		Cytokine Panel (mouse) Control 2	150	pg/mL
		Cytokine Panel (mouse) Control 3	53.6	pg/mL
3	ms IL-33	Calibrator	3280	pg/mL
		Cytokine Panel (mouse) Control 1	2382	pg/mL
		Cytokine Panel (mouse) Control 2	284	pg/mL
		Cytokine Panel (mouse) Control 3	36.2	pg/mL
4	ms IL-27p28/IL-30	Calibrator	10500	pg/mL
		Cytokine Panel (mouse) Control 1	8677	pg/mL
		Cytokine Panel (mouse) Control 2	1227	pg/mL
		Cytokine Panel (mouse) Control 3	187	pg/mL
5	ms IL-15	Calibrator	37600	pg/mL
		Cytokine Panel (mouse) Control 1	28253	pg/mL
		Cytokine Panel (mouse) Control 2	4168	pg/mL
		Cytokine Panel (mouse) Control 3	663	pg/mL
6	ms IL-17A/F	Calibrator	2460	pg/mL
		Cytokine Panel (mouse) Control 1	2185	pg/mL
		Cytokine Panel (mouse) Control 2	203	pg/mL
		Cytokine Panel (mouse) Control 3	17.9	pg/mL
7	ms MIP-1 α	Calibrator	601	pg/mL
		Cytokine Panel (mouse) Control 1	573	pg/mL
		Cytokine Panel (mouse) Control 2	49.3	pg/mL
		Cytokine Panel (mouse) Control 3	4.24	pg/mL
8	ms IP-10	Calibrator	898	pg/mL
		Cytokine Panel (mouse) Control 1	887	pg/mL
		Cytokine Panel (mouse) Control 2	229	pg/mL
		Cytokine Panel (mouse) Control 3	59.9	pg/mL
9	ms MIP-2	Calibrator	646	pg/mL
		Cytokine Panel (mouse) Control 1	567	pg/mL
		Cytokine Panel (mouse) Control 2	66.6	pg/mL
		Cytokine Panel (mouse) Control 3	10.1	pg/mL

Controls tested may not be the same lot as shipped.

CERTIFICATE OF ANALYSIS

Standard Curve Data:

ms IL-9 - Spot 1		
Conc. pg/mL	ECL Signal	%CV
3860	581,000	3.9
965	194,000	2.9
241	44,900	4.7
60.3	11,400	5.3
15.1	3,860	4.4
3.77	2,180	7.0
0.942	1,660	11.0
0.00	1,660	10.0

ms MCP-1 - Spot 2		
Conc. pg/mL	ECL Signal	%CV
491	709,000	7.8
123	94,400	6.4
30.7	12,700	5.8
7.67	2,370	5.4
1.92	809	5.1
0.479	441	6.1
0.120	361	7.0
0.00	332	8.0

ms IL-33 - Spot 3		
Conc. pg/mL	ECL Signal	%CV
3280	621,000	8.2
820	198,000	6.6
205	53,900	5.4
51.3	13,200	5.3
12.8	3,810	4.8
3.20	1,200	5.3
0.801	575	5.6
0.00	354	9.7

ms IL-27p28/IL-30 - Spot 4		
Conc. pg/mL	ECL Signal	%CV
10500	670,000	3.0
2630	247,000	2.8
656	66,300	2.5
164	17,100	2.7
41.0	4,420	3.0
10.3	1,450	4.2
2.56	630	5.4
0.00	381	12.0

ms IL-15 - Spot 5		
Conc. pg/mL	ECL Signal	%CV
37600	253,000	6.5
9400	104,000	6.1
2350	29,100	4.3
588	6,930	3.3
147	2,030	3.4
36.7	834	3.9
9.18	548	5.7
0.00	454	6.7

ms IL-17A/F - Spot 6		
Conc. pg/mL	ECL Signal	%CV
2460	811,000	6.4
615	244,000	4.0
154	61,900	3.4
38.4	14,600	5.9
9.61	4,380	3.0
2.40	1,290	3.4
0.601	549	5.2
0.00	292	7.5

ms MIP-1 α - Spot 7		
Conc. pg/mL	ECL Signal	%CV
601	1,770,000	2.1
150	488,000	1.8
37.6	121,000	2.4
9.39	29,300	3.3
2.35	8,040	2.1
0.587	2,330	2.5
0.147	920	2.8
0.00	424	7.8

ms IP-10 - Spot 8		
Conc. pg/mL	ECL Signal	%CV
898	698,000	3.9
225	235,000	3.9
56.1	61,600	3.6
14.0	16,300	3.4
3.51	4,570	4.8
0.877	1,790	10.0
0.219	1,060	14.0
0.00	1,090	17.0

ms MIP-2 - Spot 9		
Conc. pg/mL	ECL Signal	%CV
646	1,070,000	2.2
162	327,000	2.1
40.4	86,600	2.5
10.1	21,500	3.4
2.52	5,800	2.0
0.631	1,690	3.3
0.158	637	6.5
0.00	255	13.0

CERTIFICATE OF ANALYSIS

Page 4 of 4


Components:

Description	Lot Number	Storage Temperature	Expiration Date
Cytokine Panel 1 (mouse) Plate	Z0046499	2-8°C	31 Oct 2019
Anti-ms IL-9 Antibody	D0080934	2-8°C	31 Aug 2019
Anti-ms MCP-1 Antibody	D0080971	2-8°C	30 Nov 2019
Anti-ms IL-33 Antibody	D0080972	2-8°C	30 Nov 2019
Anti-ms IL-27p28/IL-30 Antibody	D0080973	2-8°C	30 Nov 2019
Anti-ms IL-15 Antibody	D0080974	2-8°C	30 Nov 2019
Anti-ms IL-17A/F Antibody	D0080975	2-8°C	30 Nov 2019
Anti-ms MIP-1 α Antibody	D0080976	2-8°C	30 Nov 2019
Anti-ms IP-10 Antibody	D0080977	2-8°C	30 Nov 2019
Anti-ms MIP-2 Antibody	D0080989	2-8°C	30 Nov 2019
Cytokine Panel 1 (mouse) Calibrator Blend	A0080125	2-8°C	31 Mar 2022
Diluent 41	M0410016	$\leq -10^{\circ}\text{C}$	31 Aug 2019
Diluent 45	M0450016	$\leq -10^{\circ}\text{C}$	30 Sep 2019
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
Cytokine Panel (mouse) Control 1	Not Kit Specific
Cytokine Panel (mouse) Control 2	Not Kit Specific
Cytokine Panel (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
Review/Approval	Dawn Stollar	Quality Assurance		28 JUL 2017