

## CERTIFICATE OF ANALYSIS

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**Product Description:** V-PLEX® and V-PLEX Plus Proinflammatory Panel 1 (mouse) Kit  
**Kit Catalog Numbers:** K15048-series  
**Kit Lot Number:** K0080638  
**Expiration Date:** 31 Mar 2019

### Acceptance Data/ Percent Recovery Specifications:

Spot	Name	Calibrator		Proinflammatory Panel 1 (mouse) Control 1		Proinflammatory Panel 1 (mouse) Control 2		Proinflammatory Panel 1 (mouse) Control 3	
		Recovery	CV	Recovery	CV	Recovery	CV	Recovery	CV
1	ms IFN- $\gamma$	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
2	ms IL-1 $\beta$	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
3	ms IL-2	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
4	ms IL-4	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
5	ms IL-5	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
6	ms IL-6	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
7	ms KC/GRO	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
8	ms IL-10	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
9	ms IL-12p70	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
10	ms TNF- $\alpha$	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%

Spot	Name	LLOQ			ULOQ		
		Value	Recovery	CV	Value	Recovery	CV
1	ms IFN- $\gamma$	0.390	75% - 125%	< 25%	570	75% - 125%	< 25%
2	ms IL-1 $\beta$	0.720	75% - 125%	< 25%	1030	75% - 125%	< 25%
3	ms IL-2	1.03	75% - 125%	< 25%	1570	75% - 125%	< 25%
4	ms IL-4	2.58	75% - 125%	< 25%	1060	75% - 125%	< 25%
5	ms IL-5	1.60	75% - 125%	< 25%	590	75% - 125%	< 25%
6	ms IL-6	7.61	75% - 125%	< 25%	3140	75% - 125%	< 25%
7	ms KC/GRO	3.29	75% - 125%	< 25%	1230	75% - 125%	< 25%
8	ms IL-10	19.8	75% - 125%	< 25%	2030	75% - 125%	< 25%
9	ms IL-12p70	179	75% - 125%	< 25%	20600	75% - 125%	< 25%
10	ms TNF- $\alpha$	0.980	75% - 125%	< 25%	403	75% - 125%	< 25%

### Acceptance Data/ Non Specific Binding Specifications:

Spot	Name	NSB Spec
1	ms IFN- $\gamma$	< 1.0%
2	ms IL-1 $\beta$	< 1.0%
3	ms IL-2	< 1.0%
4	ms IL-4	< 1.0%
5	ms IL-5	< 1.0%
6	ms IL-6	< 1.0%
7	ms KC/GRO	< 1.0%
8	ms IL-10	< 1.0%
9	ms IL-12p70	< 1.0%
10	ms TNF- $\alpha$	< 1.0%

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**Stock Concentration of Material Tested :**

Spot	Name	Item	Conc	Units
1	ms IFN- $\gamma$	Calibrator	933	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	280	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	21.5	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	1.88	pg/mL
2	ms IL-1 $\beta$	Calibrator	1720	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	673	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	49	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	4.47	pg/mL
3	ms IL-2	Calibrator	2720	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	897	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	63.4	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	5.02	pg/mL
4	ms IL-4	Calibrator	1700	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	437	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	60	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	13	pg/mL
5	ms IL-5	Calibrator	961	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	323	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	49.1	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	9.26	pg/mL
6	ms IL-6	Calibrator	5500	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	1590	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	247	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	40.1	pg/mL
7	ms KC/GRO	Calibrator	1920	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	651	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	108	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	17.7	pg/mL
8	ms IL-10	Calibrator	3070	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	1040	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	312	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	97.7	pg/mL
9	ms IL-12p70	Calibrator	31500	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	13400	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	3840	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	1120	pg/mL
10	ms TNF- $\alpha$	Calibrator	653	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	140	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	27.8	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	5.12	pg/mL

Controls tested may not be the same lot as shipped.

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### Standard Curve Data:

ms IFN- $\gamma$ - Spot 1		
Conc. pg/mL	ECL Signal	%CV
933	1,150,000	2.2
233	354,000	2.5
58.3	92,100	2.3
14.6	23,400	2.6
3.64	5,870	1.6
0.911	1,580	3.6
0.228	479	8.2
0.00	102	28.0

ms IL-1 $\beta$ - Spot 2		
Conc. pg/mL	ECL Signal	%CV
1720	691,000	4.2
430	200,000	4.1
108	55,600	2.9
26.9	13,800	2.9
6.72	3,690	3.1
1.68	1,020	5.0
0.420	366	8.0
0.00	124	20.0

ms IL-2 - Spot 3		
Conc. pg/mL	ECL Signal	%CV
2720	716,000	3.6
680	196,000	6.0
170	46,100	6.5
42.5	10,300	6.1
10.6	2,680	4.2
2.66	802	5.9
0.664	324	12.0
0.00	150	22.0

ms IL-4 - Spot 4		
Conc. pg/mL	ECL Signal	%CV
1700	1,070,000	3.0
425	319,000	2.8
106	87,300	3.6
26.6	23,100	4.0
6.64	6,080	3.6
1.66	1,750	4.3
0.415	628	4.5
0.00	259	14.0

ms IL-5 - Spot 5		
Conc. pg/mL	ECL Signal	%CV
961	1,500,000	3.4
240	362,000	2.6
60.1	89,100	2.8
15.0	22,100	3.3
3.75	5,750	3.0
0.938	1,570	3.8
0.235	511	5.9
0.00	151	16.0

ms IL-6 - Spot 6		
Conc. pg/mL	ECL Signal	%CV
5500	776,000	2.9
1380	177,000	1.9
344	43,000	2.2
85.9	10,600	2.7
21.5	2,940	6.1
5.37	880	4.1
1.34	422	24.0
0.00	280	39.0

ms KC/GRO - Spot 7		
Conc. pg/mL	ECL Signal	%CV
1920	1,160,000	2.7
480	257,000	2.9
120	52,800	4.2
30.0	11,900	3.6
7.50	3,170	3.8
1.88	881	3.2
0.469	386	20.0
0.00	221	35.0

ms IL-10 - Spot 8		
Conc. pg/mL	ECL Signal	%CV
3070	762,000	3.6
768	175,000	1.9
192	43,400	2.9
48.0	11,100	4.5
12.0	3,270	6.1
3.00	1,230	6.8
0.750	772	14.0
0.00	913	17.0

ms IL-12p70 - Spot 9		
Conc. pg/mL	ECL Signal	%CV
31500	576,000	3.1
7880	104,000	2.9
1970	18,400	5.9
492	3,700	7.1
123	1,090	5.2
30.8	380	8.3
7.69	278	32.0
0.00	442	50.0

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ms TNF- $\alpha$ - Spot 10		
Conc. pg/mL	ECL Signal	%CV
653	761,000	2.8
163	173,000	2.9
40.8	41,300	4.7
10.2	10,300	4.7
2.55	3,060	5.1
0.638	1,230	16.0
0.159	858	31.0
0.00	880	30.0

**Components:**

Description	Lot Number	Storage Temperature	Expiration Date
Proinflammatory Panel 1 (mouse) Plate	Z0046248	2-8°C	31 Mar 2019
Anti-ms IFN- $\gamma$ Antibody	D0080785	2-8°C	31 Mar 2019
Anti-ms IL-1 $\beta$ Antibody	D0080788	2-8°C	31 Mar 2019
Anti-ms IL-2 Antibody	D0080786	2-8°C	31 Mar 2019
Anti-ms IL-4 Antibody	D0080789	2-8°C	31 Mar 2019
Anti-ms IL-5 Antibody	D0080790	2-8°C	31 Mar 2019
Anti-ms IL-6 Antibody	D0080791	2-8°C	31 Mar 2019
Anti-ms KC/GRO Antibody	D0080792	2-8°C	31 Mar 2019
Anti-ms IL-10 Antibody	D0080793	2-8°C	31 Mar 2019
Anti-ms IL-12p70 Antibody	D0080794	2-8°C	31 Mar 2019
Anti-ms TNF- $\alpha$ Antibody	D0080787	2-8°C	31 Mar 2019
Proinflammatory Panel 1 (mouse) Calibrator Blend	A0080110	2-8°C	31 Dec 2021
Diluent 41	M0410015	$\leq$ -10°C	30 Jun 2019
Diluent 45	M0450018	$\leq$ -10°C	30 Nov 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
Proinflammatory Panel 1 (mouse) Control 1	Not Kit Specific
Proinflammatory Panel 1 (mouse) Control 2	Not Kit Specific
Proinflammatory 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>	Vanessa Castleberry	Quality Assurance	<i>Vanessa Castleberry</i>	01AUG2017