

## 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:** K0081081

**Expiration Date:** 30 Sep 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	0.818	75% - 125%	< 25%	1060	75% - 125%	< 25%
5	ms IL-5	0.302	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	7.26	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	467	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	32.2	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	2.15	pg/mL
2	ms IL-1 $\beta$	Calibrator	1430	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	741	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	53.8	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	4.48	pg/mL
3	ms IL-2	Calibrator	2420	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	919	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	54.8	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	5.84	pg/mL
4	ms IL-4	Calibrator	1610	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	480	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	62	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	15.9	pg/mL
5	ms IL-5	Calibrator	903	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	368	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	55.5	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	8.58	pg/mL
6	ms IL-6	Calibrator	4730	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	1050	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	167	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	31.5	pg/mL
7	ms KC/GRO	Calibrator	1830	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	695	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	116	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	17.7	pg/mL
8	ms IL-10	Calibrator	3480	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	1160	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	345	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	136	pg/mL
9	ms IL-12p70	Calibrator	32600	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	13500	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	3380	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	806	pg/mL
10	ms TNF- $\alpha$	Calibrator	629	pg/mL
		Proinflammatory Panel 1 (mouse) Control 1	166	pg/mL
		Proinflammatory Panel 1 (mouse) Control 2	29.9	pg/mL
		Proinflammatory Panel 1 (mouse) Control 3	4.93	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	915,000	4.6
233	271,000	4.3
58.3	67,400	2.5
14.6	16,600	3.6
3.64	4,150	3.4
0.911	1,140	2.8
0.228	380	4.0
0.00	125	20.0

ms IL-1 $\beta$ - Spot 2		
Conc. pg/mL	ECL Signal	%CV
1430	420,000	4.0
358	124,000	3.8
89.4	32,400	4.5
22.3	8,220	4.4
5.59	2,160	4.4
1.40	651	5.3
0.349	259	9.9
0.00	138	15.0

ms IL-2 - Spot 3		
Conc. pg/mL	ECL Signal	%CV
2420	848,000	6.4
605	229,000	7.7
151	53,900	5.4
37.8	12,400	5.5
9.45	3,490	5.0
2.36	1,110	3.2
0.591	528	4.5
0.00	325	7.4

ms IL-4 - Spot 4		
Conc. pg/mL	ECL Signal	%CV
1610	967,000	3.3
403	289,000	3.2
101	76,300	2.3
25.2	20,000	2.5
6.29	5,090	3.1
1.57	1,520	3.6
0.393	586	5.2
0.00	275	7.1

ms IL-5 - Spot 5		
Conc. pg/mL	ECL Signal	%CV
903	1,530,000	2.4
226	368,000	1.3
56.4	88,100	2.3
14.1	21,600	3.1
3.53	5,520	1.7
0.882	1,510	1.8
0.220	502	5.5
0.00	179	11.0

ms IL-6 - Spot 6		
Conc. pg/mL	ECL Signal	%CV
4730	599,000	2.4
1180	133,000	1.2
296	31,200	2.6
73.9	7,610	4.1
18.5	2,260	1.5
4.62	754	3.7
1.15	382	5.7
0.00	271	9.0

ms KC/GRO - Spot 7		
Conc. pg/mL	ECL Signal	%CV
1830	1,360,000	5.3
458	303,000	4.5
114	61,400	3.7
28.6	13,600	5.0
7.15	3,510	3.7
1.79	978	4.7
0.447	384	7.6
0.00	173	14.0

ms IL-10 - Spot 8		
Conc. pg/mL	ECL Signal	%CV
3480	864,000	4.2
870	205,000	3.7
218	51,500	3.5
54.4	13,000	3.5
13.6	3,410	3.3
3.40	1,120	4.8
0.850	551	8.6
0.00	370	22.0

ms IL-12p70 - Spot 9		
Conc. pg/mL	ECL Signal	%CV
32600	706,000	3.3
8150	136,000	5.8
2040	22,300	3.0
509	4,280	3.4
127	1,170	4.9
31.8	413	4.4
7.96	241	19.0
0.00	163	14.0

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ms TNF- $\alpha$ - Spot 10		
Conc. pg/mL	ECL Signal	%CV
629	624,000	2.2
157	147,000	2.5
39.3	36,000	2.3
9.83	8,900	3.0
2.46	2,540	2.6
0.614	842	4.3
0.154	444	6.7
0.00	298	10.0


**Components:**

Description	Lot Number	Storage Temperature	Expiration Date
Proinflammatory Panel 1 (mouse) Plate	Z0046906	2-8°C	31 Mar 2021
Anti-ms IFN- $\gamma$ Antibody	D0081086	2-8°C	30 Sep 2021
Anti-ms IL-1 $\beta$ Antibody	D0081087	2-8°C	30 Nov 2021
Anti-ms IL-2 Antibody	D0081149	2-8°C	28 Feb 2022
Anti-ms IL-4 Antibody	D0080963	2-8°C	31 Oct 2019
Anti-ms IL-5 Antibody	D0081046	2-8°C	30 Apr 2020
Anti-ms IL-6 Antibody	D0081088	2-8°C	31 Oct 2021
Anti-ms KC/GRO Antibody	D0080966	2-8°C	30 Sep 2019
Anti-ms IL-10 Antibody	D0080967	2-8°C	31 Oct 2019
Anti-ms IL-12p70 Antibody	D0081047	2-8°C	31 May 2020
Anti-ms TNF- $\alpha$ Antibody	D0081060	2-8°C	30 Jun 2020
Proinflammatory Panel 1 (mouse) Calibrator Blend	A0080168	2-8°C	31 May 2023
Diluent 41	M0410024	$\leq$ -10°C	30 Sep 2020
Diluent 45	M0450023	$\leq$ -10°C	31 Jan 2021
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), 100 mL	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>	Dawn Stollar	Quality Assurance		23 OCT 2018