

CERTIFICATE OF ANALYSIS

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Product Description: V-PLEX® and V-PLEX Plus Cytokine Panel 1 (human) Kit
Kit Catalog Numbers: K15050-Series, K15057-Series, K151RC-Series, K151RG-Series, K156RG-Series, K156RC-Series
Kit Lot Number: K0081333
Expiration Date: 31 Dec 2021

Acceptance Data/ Percent Recovery Specifications:

Spot	Name	Calibrator		Cytokine Panel 1 (human) Control 1		Cytokine Panel 1 (human) Control 2		Cytokine Panel 1 (human) Control 3	
		Recovery	CV	Recovery	CV	Recovery	CV	Recovery	CV
1	GM-CSF	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
2	IL-1 α	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
3	IL-5	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
4	IL-7	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
5	IL-12/IL-23p40	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
6	IL15	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
7	IL-16	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
8	IL-17A	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
9	TNF- β	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
10	VEGF	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%

Spot	Name	LLOQ			ULOQ		
		Value	Recovery	CV	Value	Recovery	CV
1	GM-CSF	0.842	80% - 120%	< 20%	750	80% - 120%	< 20%
2	IL-1 α	2.85	80% - 120%	< 20%	278	80% - 120%	< 20%
3	IL-5	4.41	80% - 120%	< 20%	562	80% - 120%	< 20%
4	IL-7	0.546	80% - 120%	< 20%	563	80% - 120%	< 20%
5	IL-12/IL-23p40	1.32	80% - 120%	< 20%	2250	80% - 120%	< 20%
6	IL15	0.774	80% - 120%	< 20%	525	80% - 120%	< 20%
7	IL-16	19.1	80% - 120%	< 20%	1870	80% - 120%	< 20%
8	IL-17A	3.19	80% - 120%	< 20%	3650	80% - 120%	< 20%
9	TNF- β	0.465	80% - 120%	< 20%	458	80% - 120%	< 20%
10	VEGF	7.70	80% - 120%	< 20%	562	80% - 120%	< 20%

Acceptance Data/ Non Specific Binding Specifications:

Spot	Name	NSB Spec
1	GM-CSF	< 1.0%
2	IL-1 α	< 1.0%
3	IL-5	< 1.0%
4	IL-7	< 1.0%
5	IL-12/IL-23p40	< 1.0%
6	IL15	< 1.0%
7	IL-16	< 1.0%
8	IL-17A	< 1.0%
9	TNF- β	< 1.0%
10	VEGF	< 1.0%

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Stock Concentration of Material Tested :

Spot	Name	Item	Conc	Units
1	GM-CSF	Calibrator	1145	pg/mL
		Cytokine Panel 1 (human) Control 1	394	pg/mL
		Cytokine Panel 1 (human) Control 2	61.7	pg/mL
		Cytokine Panel 1 (human) Control 3	8.11	pg/mL
2	IL-1 α	Calibrator	454	pg/mL
		Cytokine Panel 1 (human) Control 1	174	pg/mL
		Cytokine Panel 1 (human) Control 2	57.6	pg/mL
		Cytokine Panel 1 (human) Control 3	17.1	pg/mL
3	IL-5	Calibrator	868	pg/mL
		Cytokine Panel 1 (human) Control 1	326	pg/mL
		Cytokine Panel 1 (human) Control 2	103	pg/mL
		Cytokine Panel 1 (human) Control 3	32.2	pg/mL
4	IL-7	Calibrator	859	pg/mL
		Cytokine Panel 1 (human) Control 1	342	pg/mL
		Cytokine Panel 1 (human) Control 2	52.4	pg/mL
		Cytokine Panel 1 (human) Control 3	8.16	pg/mL
5	IL-12/IL-23p40	Calibrator	3485	pg/mL
		Cytokine Panel 1 (human) Control 1	1320	pg/mL
		Cytokine Panel 1 (human) Control 2	190	pg/mL
		Cytokine Panel 1 (human) Control 3	30.4	pg/mL
6	IL15	Calibrator	877	pg/mL
		Cytokine Panel 1 (human) Control 1	259	pg/mL
		Cytokine Panel 1 (human) Control 2	40.7	pg/mL
		Cytokine Panel 1 (human) Control 3	7.82	pg/mL
7	IL-16	Calibrator	3075	pg/mL
		Cytokine Panel 1 (human) Control 1	1270	pg/mL
		Cytokine Panel 1 (human) Control 2	349	pg/mL
		Cytokine Panel 1 (human) Control 3	94.7	pg/mL
8	IL-17A	Calibrator	5740	pg/mL
		Cytokine Panel 1 (human) Control 1	2590	pg/mL
		Cytokine Panel 1 (human) Control 2	374	pg/mL
		Cytokine Panel 1 (human) Control 3	58.6	pg/mL
9	TNF- β	Calibrator	646	pg/mL
		Cytokine Panel 1 (human) Control 1	241	pg/mL
		Cytokine Panel 1 (human) Control 2	38.2	pg/mL
		Cytokine Panel 1 (human) Control 3	5.97	pg/mL
10	VEGF	Calibrator	1080	pg/mL
		Cytokine Panel 1 (human) Control 1	472	pg/mL
		Cytokine Panel 1 (human) Control 2	143	pg/mL
		Cytokine Panel 1 (human) Control 3	49.6	pg/mL

Controls tested may not be the same lot as shipped.

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Standard Curve Data:

GM-CSF - Spot 1		
Conc. pg/mL	ECL Signal	%CV
1150	400,000	2.1
286	115,000	2.9
71.6	29,900	2.9
17.9	7,640	3.5
4.47	1,970	3.2
1.12	595	2.4
0.280	250	7.0
0.00	140	15.0

IL-1 α - Spot 2		
Conc. pg/mL	ECL Signal	%CV
454	247,000	3.1
114	69,500	2.5
28.4	17,800	2.8
7.09	4,630	2.5
1.77	1,450	2.3
0.443	658	4.5
0.111	475	10.0
0.00	368	7.8

IL-5 - Spot 3		
Conc. pg/mL	ECL Signal	%CV
868	769,000	3.4
217	216,000	2.2
54.3	56,400	2.3
13.6	14,200	2.4
3.39	3,840	2.5
0.848	1,240	3.5
0.212	590	3.8
0.00	376	11.0

IL-7 - Spot 4		
Conc. pg/mL	ECL Signal	%CV
859	531,000	2.7
215	136,000	2.8
53.7	33,300	2.8
13.4	8,470	3.5
3.36	2,150	3.1
0.839	645	4.5
0.210	251	5.1
0.00	126	17.0

IL-12/IL-23p40 - Spot 5		
Conc. pg/mL	ECL Signal	%CV
3490	746,000	3.1
871	213,000	2.0
218	55,000	2.3
54.5	13,900	2.2
13.6	3,410	2.9
3.40	943	2.3
0.851	318	4.0
0.00	115	12.0

IL15 - Spot 6		
Conc. pg/mL	ECL Signal	%CV
877	676,000	1.7
219	112,000	2.7
54.8	28,000	2.8
13.7	6,950	3.1
3.43	1,770	3.2
0.856	510	5.6
0.214	188	9.4
0.00	92	21.0

IL-16 - Spot 7		
Conc. pg/mL	ECL Signal	%CV
3080	696,000	2.5
769	146,000	2.7
192	26,600	3.2
48.0	5,580	2.5
12.0	1,440	2.8
3.00	429	6.6
0.751	187	13.0
0.00	111	17.0

IL-17A - Spot 8		
Conc. pg/mL	ECL Signal	%CV
5740	1,290,000	5.2
1440	363,000	2.6
359	91,400	3.2
89.7	23,200	3.8
22.4	5,650	5.0
5.61	1,520	4.7
1.40	502	9.2
0.00	143	38.0

TNF- β - Spot 9		
Conc. pg/mL	ECL Signal	%CV
646	892,000	2.3
162	201,000	1.7
40.4	48,000	0.9
10.1	11,600	2.5
2.52	3,270	2.3
0.631	962	2.7
0.158	379	6.7
0.00	212	15.0

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VEGF - Spot 10		
Conc. pg/mL	ECL Signal	%CV
1080	608,000	2.1
270	126,000	2.5
67.5	23,000	2.8
16.9	4,920	4.0
4.22	1,330	2.6
1.05	416	6.5
0.264	213	6.2
0.00	150	24.0


Components:

Description	Lot Number	Storage Temperature	Expiration Date
Cytokine Panel 1 (human) Plate	Z0047186	2-8°C	28 Feb 2022
Anti-hu GM-CSF Antibody	D0081360	2-8°C	28 Feb 2023
Anti-hu IL-1 α Antibody	D0081206	2-8°C	31 May 2022
Anti-hu IL-5 Antibody	D0081361	2-8°C	28 Feb 2023
Anti-hu IL-7 Antibody	D0081185	2-8°C	30 Apr 2022
Anti-hu IL-12/23p40 Antibody	D0081362	2-8°C	28 Feb 2023
Anti-hu IL-15 Antibody	D0081145	2-8°C	30 Apr 2022
Anti-hu IL-16 Antibody	D0081207	2-8°C	31 May 2022
Anti-hu IL17A Antibody	D0081187	2-8°C	30 Apr 2022
Anti-hu TNF- β Antibody	D0081147	2-8°C	28 Feb 2022
Anti-hu VEGF Antibody	D0081273	2-8°C	31 Aug 2022
Cytokine Panel 1 (human) Calibrator Blend	A0080188	2-8°C	30 Nov 2023
Diluent 43	M0430033	\leq -10°C	31 Jan 2022
Diluent 3	M0030090	\leq -10°C	31 Dec 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
Cytokine Panel 1 (human) Control 1	Not Kit Specific
Cytokine Panel 1 (human) Control 2	Not Kit Specific
Cytokine Panel 1 (human) 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	Karen Hamilla	Quality		23 OCT 2019