

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

Kit Lot Number: K0081102

Expiration Date: 31 Jul 2020

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	hu GM-CSF	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
2	hu IL-1 α	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
3	hu IL-5	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
4	hu IL-7	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
5	hu IL-12/23 p40	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
6	hu IL-15	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
7	hu IL-16	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
8	hu IL-17A	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
9	hu TNF- β	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
10	hu VEGF	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%

Spot	Name	LLOQ			ULOQ		
		Value	Recovery	CV	Value	Recovery	CV
1	hu GM-CSF	0.842	80% - 120%	< 20%	750	80% - 120%	< 20%
2	hu IL-1 α	2.85	80% - 120%	< 20%	278	80% - 120%	< 20%
3	hu IL-5	4.41	80% - 120%	< 20%	562	80% - 120%	< 20%
4	hu IL-7	0.546	80% - 120%	< 20%	563	80% - 120%	< 20%
5	hu IL-12/23 p40	1.32	80% - 120%	< 20%	2250	80% - 120%	< 20%
6	hu IL-15	0.774	80% - 120%	< 20%	525	80% - 120%	< 20%
7	hu IL-16	19.1	80% - 120%	< 20%	1870	80% - 120%	< 20%
8	hu IL-17A	3.19	80% - 120%	< 20%	3650	80% - 120%	< 20%
9	hu TNF- β	0.465	80% - 120%	< 20%	458	80% - 120%	< 20%
10	hu VEGF	7.70	80% - 120%	< 20%	562	80% - 120%	< 20%

Acceptance Data/ Non Specific Binding Specifications:

Spot	Name	NSB Spec
1	hu GM-CSF	< 1.0%
2	hu IL-1 α	< 1.0%
3	hu IL-5	< 1.0%
4	hu IL-7	< 1.0%
5	hu IL-12/23 p40	< 1.0%
6	hu IL-15	< 1.0%
7	hu IL-16	< 1.0%
8	hu IL-17A	< 1.0%
9	hu TNF- β	< 1.0%
10	hu VEGF	< 1.0%

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Stock Concentration of Material Tested :

Spot	Name	Item	Conc	Units
1	hu GM-CSF	Calibrator	1070	pg/mL
		Cytokine Panel 1 (human) Control 1	408	pg/mL
		Cytokine Panel 1 (human) Control 2	64.1	pg/mL
		Cytokine Panel 1 (human) Control 3	9.7	pg/mL
2	hu IL-1 α	Calibrator	454	pg/mL
		Cytokine Panel 1 (human) Control 1	183	pg/mL
		Cytokine Panel 1 (human) Control 2	58.1	pg/mL
		Cytokine Panel 1 (human) Control 3	16.3	pg/mL
3	hu IL-5	Calibrator	830	pg/mL
		Cytokine Panel 1 (human) Control 1	343	pg/mL
		Cytokine Panel 1 (human) Control 2	109	pg/mL
		Cytokine Panel 1 (human) Control 3	32.7	pg/mL
4	hu IL-7	Calibrator	846	pg/mL
		Cytokine Panel 1 (human) Control 1	346	pg/mL
		Cytokine Panel 1 (human) Control 2	58	pg/mL
		Cytokine Panel 1 (human) Control 3	7.79	pg/mL
5	hu IL-12/23 p40	Calibrator	3650	pg/mL
		Cytokine Panel 1 (human) Control 1	1430	pg/mL
		Cytokine Panel 1 (human) Control 2	204	pg/mL
		Cytokine Panel 1 (human) Control 3	32.6	pg/mL
6	hu IL-15	Calibrator	829	pg/mL
		Cytokine Panel 1 (human) Control 1	286	pg/mL
		Cytokine Panel 1 (human) Control 2	45	pg/mL
		Cytokine Panel 1 (human) Control 3	8	pg/mL
7	hu IL-16	Calibrator	2640	pg/mL
		Cytokine Panel 1 (human) Control 1	1200	pg/mL
		Cytokine Panel 1 (human) Control 2	334	pg/mL
		Cytokine Panel 1 (human) Control 3	100	pg/mL
8	hu IL-17A	Calibrator	6240	pg/mL
		Cytokine Panel 1 (human) Control 1	2020	pg/mL
		Cytokine Panel 1 (human) Control 2	277	pg/mL
		Cytokine Panel 1 (human) Control 3	42.9	pg/mL
9	hu TNF- β	Calibrator	711	pg/mL
		Cytokine Panel 1 (human) Control 1	247	pg/mL
		Cytokine Panel 1 (human) Control 2	37.9	pg/mL
		Cytokine Panel 1 (human) Control 3	5.75	pg/mL
10	hu VEGF	Calibrator	1120	pg/mL
		Cytokine Panel 1 (human) Control 1	384	pg/mL
		Cytokine Panel 1 (human) Control 2	114	pg/mL
		Cytokine Panel 1 (human) Control 3	37.5	pg/mL

Controls tested may not be the same lot as shipped.

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Standard Curve Data:

hu GM-CSF - Spot 1		
Conc. pg/mL	ECL Signal	%CV
1070	386,000	2.4
268	114,000	2.2
66.9	30,600	1.7
16.7	7,520	2.7
4.18	1,990	2.9
1.04	639	5.4
0.261	260	8.6
0.00	134	16.0

hu IL-1 α - Spot 2		
Conc. pg/mL	ECL Signal	%CV
454	257,000	4.2
114	74,200	5.0
28.4	20,000	4.3
7.09	4,990	5.4
1.77	1,650	5.7
0.443	749	2.8
0.111	519	4.8
0.00	440	13.0

hu IL-5 - Spot 3		
Conc. pg/mL	ECL Signal	%CV
830	557,000	3.3
208	153,000	3.2
51.9	39,600	3.9
13.0	9,740	3.0
3.24	2,840	2.8
0.811	1,030	3.2
0.203	542	7.4
0.00	371	10.0

hu IL-7 - Spot 4		
Conc. pg/mL	ECL Signal	%CV
846	509,000	2.3
212	132,000	2.0
52.9	33,400	1.6
13.2	8,300	2.8
3.30	2,090	3.5
0.826	647	3.9
0.207	261	9.5
0.00	131	24.0

hu IL-12/23 p40 - Spot 5		
Conc. pg/mL	ECL Signal	%CV
3650	629,000	3.0
913	182,000	2.6
228	47,100	3.0
57.0	11,500	2.4
14.3	3,010	1.9
3.56	873	3.9
0.891	324	6.7
0.00	124	15.0

hu IL-15 - Spot 6		
Conc. pg/mL	ECL Signal	%CV
829	676,000	3.1
207	123,000	3.2
51.8	28,500	3.8
13.0	6,670	5.3
3.24	1,820	2.6
0.810	532	5.7
0.202	199	9.8
0.00	90	25.0

hu IL-16 - Spot 7		
Conc. pg/mL	ECL Signal	%CV
2640	842,000	2.8
660	185,000	3.9
165	37,300	4.0
41.3	7,420	4.3
10.3	1,950	2.5
2.58	584	5.1
0.645	236	12.0
0.00	123	23.0

hu IL-17A - Spot 8		
Conc. pg/mL	ECL Signal	%CV
6240	1,280,000	4.2
1560	379,000	4.7
390	99,200	3.0
97.5	24,700	6.6
24.4	6,250	6.6
6.09	1,700	6.3
1.52	545	8.1
0.00	171	30.0

hu TNF- β - Spot 9		
Conc. pg/mL	ECL Signal	%CV
711	914,000	2.6
178	212,000	2.4
44.4	50,300	2.7
11.1	12,100	2.8
2.78	3,560	2.2
0.694	1,060	2.6
0.174	429	4.2
0.00	223	8.6

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hu VEGF - Spot 10		
Conc. pg/mL	ECL Signal	%CV
1120	814,000	2.7
280	159,000	3.3
70.0	30,200	3.9
17.5	6,510	4.7
4.38	1,740	3.3
1.09	535	5.6
0.273	229	11.0
0.00	132	18.0


Components:

Description	Lot Number	Storage Temperature	Expiration Date
Cytokine Panel 1 (human) Plate	Z0046929	2-8°C	31 Mar 2021
Anti-hu GM-CSF Antibody	D0081143	2-8°C	28 Feb 2022
Anti-hu IL-1α Antibody	D0081144	2-8°C	28 Feb 2022
Anti-hu IL-5 Antibody	D0081184	2-8°C	30 Apr 2022
Anti-hu IL-7 Antibody	D0081079	2-8°C	30 Sep 2021
Anti-hu IL-12/23p40 Antibody	D0081080	2-8°C	30 Sep 2021
Anti-hu IL-15 Antibody	D0081145	2-8°C	30 Apr 2022
Anti-hu IL-16 Antibody	D0081146	2-8°C	28 Feb 2022
Anti-hu IL-17A Antibody	D0081066	2-8°C	31 Jul 2020
Anti-hu TNF-β Antibody	D0081147	2-8°C	28 Feb 2022
Anti-hu VEGF Antibody	D0081148	2-8°C	28 Feb 2022
Cytokine Panel 1 (human) Calibrator Blend	A0080170	2-8°C	30 Jun 2023
Diluent 43	M0430028	≤ -10°C	31 Jan 2021
Diluent 3	M0030085	≤ -10°C	28 Feb 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	Dawn Stollar	Quality Assurance		11 DEC 2018