

CERTIFICATE OF ANALYSIS

Page 1 of 4

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

Kit Catalog Numbers: K15050-Series

Kit Lot Number: K0080903

Expiration Date: 31 Jul 2019

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-12/23p40	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	1.90	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	6.28	80% - 120%	< 20%	562	80% - 120%	< 20%
4	hu IL-7	1.37	80% - 120%	< 20%	563	80% - 120%	< 20%
5	hu IL-12/23p40	5.68	80% - 120%	< 20%	2250	80% - 120%	< 20%
6	hu IL-15	1.40	80% - 120%	< 20%	525	80% - 120%	< 20%
7	hu IL-16	19.1	80% - 120%	< 20%	1870	80% - 120%	< 20%
8	hu IL-17A	9.32	80% - 120%	< 20%	3650	80% - 120%	< 20%
9	hu TNF- β	1.15	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-12/23p40	< 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%

CERTIFICATE OF ANALYSIS

Stock Concentration of Material Tested :

Spot	Name	Item	Conc	Units
1	hu GM-CSF	Calibrator	1100	pg/mL
		Cytokine Panel 1 (human) Control 1	362	pg/mL
		Cytokine Panel 1 (human) Control 2	55.8	pg/mL
		Cytokine Panel 1 (human) Control 3	9.8	pg/mL
2	hu IL-1 α	Calibrator	459	pg/mL
		Cytokine Panel 1 (human) Control 1	167	pg/mL
		Cytokine Panel 1 (human) Control 2	57.8	pg/mL
		Cytokine Panel 1 (human) Control 3	19.3	pg/mL
3	hu IL-5	Calibrator	877	pg/mL
		Cytokine Panel 1 (human) Control 1	371	pg/mL
		Cytokine Panel 1 (human) Control 2	123	pg/mL
		Cytokine Panel 1 (human) Control 3	33.7	pg/mL
4	hu IL-7	Calibrator	881	pg/mL
		Cytokine Panel 1 (human) Control 1	241	pg/mL
		Cytokine Panel 1 (human) Control 2	42	pg/mL
		Cytokine Panel 1 (human) Control 3	7.3	pg/mL
5	hu IL-12/23p40	Calibrator	3690	pg/mL
		Cytokine Panel 1 (human) Control 1	1290	pg/mL
		Cytokine Panel 1 (human) Control 2	208	pg/mL
		Cytokine Panel 1 (human) Control 3	35.5	pg/mL
6	hu IL-15	Calibrator	842	pg/mL
		Cytokine Panel 1 (human) Control 1	241	pg/mL
		Cytokine Panel 1 (human) Control 2	36.5	pg/mL
		Cytokine Panel 1 (human) Control 3	8	pg/mL
7	hu IL-16	Calibrator	2800	pg/mL
		Cytokine Panel 1 (human) Control 1	1160	pg/mL
		Cytokine Panel 1 (human) Control 2	328	pg/mL
		Cytokine Panel 1 (human) Control 3	126	pg/mL
8	hu IL-17A	Calibrator	6480	pg/mL
		Cytokine Panel 1 (human) Control 1	2590	pg/mL
		Cytokine Panel 1 (human) Control 2	327	pg/mL
		Cytokine Panel 1 (human) Control 3	57.5	pg/mL
9	hu TNF- β	Calibrator	733	pg/mL
		Cytokine Panel 1 (human) Control 1	196	pg/mL
		Cytokine Panel 1 (human) Control 2	31.7	pg/mL
		Cytokine Panel 1 (human) Control 3	5.4	pg/mL
10	hu VEGF	Calibrator	1490	pg/mL
		Cytokine Panel 1 (human) Control 1	373	pg/mL
		Cytokine Panel 1 (human) Control 2	127	pg/mL
		Cytokine Panel 1 (human) Control 3	56.1	pg/mL

Controls tested may not be the same lot as shipped.

CERTIFICATE OF ANALYSIS

Standard Curve Data:

hu GM-CSF - Spot 1		
Conc. pg/mL	ECL Signal	%CV
1100	389,000	2.7
275	115,000	3.0
68.8	30,300	4.0
17.2	7,620	4.6
4.30	2,010	3.8
1.07	607	4.0
0.269	261	9.8
0.00	135	16.0

hu IL-1 α - Spot 2		
Conc. pg/mL	ECL Signal	%CV
459	369,000	3.7
115	106,000	3.2
28.7	27,100	5.7
7.17	6,910	4.3
1.79	1,970	4.6
0.448	713	4.5
0.112	400	8.5
0.00	290	20.0

hu IL-5 - Spot 3		
Conc. pg/mL	ECL Signal	%CV
877	868,000	2.1
219	244,000	1.9
54.8	63,400	2.7
13.7	15,900	3.4
3.43	4,730	3.1
0.856	1,700	3.5
0.214	998	6.2
0.00	636	20.0

hu IL-7 - Spot 4		
Conc. pg/mL	ECL Signal	%CV
881	486,000	2.8
220	121,000	2.9
55.1	29,900	3.4
13.8	7,390	4.9
3.44	1,910	4.3
0.860	566	6.3
0.215	227	12.0
0.00	113	25.0

hu IL-12/23p40 - Spot 5		
Conc. pg/mL	ECL Signal	%CV
3690	675,000	2.2
923	192,000	1.3
231	49,700	2.4
57.7	12,500	2.9
14.4	3,250	2.2
3.60	921	3.4
0.901	331	6.3
0.00	130	17.0

hu IL-15 - Spot 6		
Conc. pg/mL	ECL Signal	%CV
842	657,000	2.8
211	120,000	2.4
52.6	27,800	3.2
13.2	6,930	4.1
3.29	1,840	2.5
0.822	524	4.5
0.206	207	6.1
0.00	104	19.0

hu IL-16 - Spot 7		
Conc. pg/mL	ECL Signal	%CV
2800	897,000	2.0
700	197,000	3.7
175	38,100	3.4
43.8	8,080	3.1
10.9	2,190	2.8
2.73	672	3.4
0.684	319	7.8
0.00	192	20.0

hu IL-17A - Spot 8		
Conc. pg/mL	ECL Signal	%CV
6480	1,380,000	3.2
1620	363,000	1.5
405	91,000	2.2
101	23,000	3.4
25.3	6,250	5.3
6.33	2,050	2.6
1.58	1,010	4.8
0.00	678	6.8

hu TNF- β - Spot 9		
Conc. pg/mL	ECL Signal	%CV
733	745,000	2.1
183	162,000	1.4
45.8	37,200	1.9
11.5	9,000	2.8
2.86	2,730	2.8
0.716	801	3.9
0.179	323	4.9
0.00	159	21.0

CERTIFICATE OF ANALYSIS

hu VEGF - Spot 10		
Conc. pg/mL	ECL Signal	%CV
1490	1,240,000	1.9
373	263,000	1.3
93.1	49,200	1.9
23.3	10,400	3.6
5.82	2,750	2.2
1.46	779	2.8
0.364	317	7.2
0.00	154	20.0


Components:

Description	Lot Number	Storage Temperature	Expiration Date
Cytokine Panel 1 (human) Plate	Z0046674	2-8°C	31 Mar 2020
Anti-hu GM-CSF Antibody	D0080885	2-8°C	31 Jul 2019
Anti-hu IL-1 α Antibody	D0080886	2-8°C	31 Jul 2019
Anti-hu IL-5 Antibody	D0080887	2-8°C	31 Jul 2019
Anti-hu IL-7 Antibody	D0080888	2-8°C	31 Jul 2019
Anti-hu IL-12/23p40 Antibody	D0080889	2-8°C	31 Jul 2019
Anti-hu IL-15 Antibody	D0080890	2-8°C	31 Jul 2019
Anti-hu IL-16 Antibody	D0080891	2-8°C	31 Jul 2019
Anti-hu IL-17A Antibody	D0080984	2-8°C	31 Oct 2019
Anti-hu TNF- β Antibody	D0080893	2-8°C	31 Jul 2019
Anti-hu VEGF Antibody	D0080894	2-8°C	31 Jul 2019
Cytokine Panel 1 (human) Calibrator Blend	A0080144	2-8°C	31 Aug 2022
Diluent 43	M0430024	\leq -10°C	31 Jan 2020
Diluent 3	M0030078	\leq -10°C	31 Jan 2020
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 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		30 NOV 2017