

CERTIFICATE OF ANALYSIS

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Product Description: V-PLEX® and V-PLEX Plus Cytokine Panel 1 (NHP) Kit
Kit Catalog Numbers: K15057-Series
Kit Lot Number: K0080915
Expiration Date: 30 Jun 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	NHP GM-CSF	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
3	NHP IL-5	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
4	NHP IL-7	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
5	NHP IL-12/23p40	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
6	NHP IL-15	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
7	NHP IL-16	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
8	NHP IL-17A	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
9	NHP TNF-β	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
10	NHP VEGF	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%

Spot	Name	LLOQ			ULOQ		
		Value	Recovery	CV	Value	Recovery	CV
1	NHP GM-CSF	1.90	80% - 120%	< 20%	750	80% - 120%	< 20%
3	NHP IL-5	6.28	80% - 120%	< 20%	562	80% - 120%	< 20%
4	NHP IL-7	1.37	80% - 120%	< 20%	563	80% - 120%	< 20%
5	NHP IL-12/23p40	5.68	80% - 120%	< 20%	2250	80% - 120%	< 20%
6	NHP IL-15	1.40	80% - 120%	< 20%	525	80% - 120%	< 20%
7	NHP IL-16	19.1	80% - 120%	< 20%	1870	80% - 120%	< 20%
8	NHP IL-17A	9.32	80% - 120%	< 20%	3650	80% - 120%	< 20%
9	NHP TNF-β	1.15	80% - 120%	< 20%	458	80% - 120%	< 20%
10	NHP VEGF	7.70	80% - 120%	< 20%	562	80% - 120%	< 20%

Acceptance Data/ Non Specific Binding Specifications:

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

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Stock Concentration of Material Tested :

Spot	Name	Item	Conc	Units
1	NHP GM-CSF	Calibrator	1100	pg/mL
		Cytokine Panel 1 (human) Control 1	370	pg/mL
		Cytokine Panel 1 (human) Control 2	70	pg/mL
		Cytokine Panel 1 (human) Control 3	10	pg/mL
3	NHP IL-5	Calibrator	877	pg/mL
		Cytokine Panel 1 (human) Control 1	310	pg/mL
		Cytokine Panel 1 (human) Control 2	110	pg/mL
		Cytokine Panel 1 (human) Control 3	34	pg/mL
4	NHP IL-7	Calibrator	881	pg/mL
		Cytokine Panel 1 (human) Control 1	330	pg/mL
		Cytokine Panel 1 (human) Control 2	60	pg/mL
		Cytokine Panel 1 (human) Control 3	10	pg/mL
5	NHP IL-12/23p40	Calibrator	3690	pg/mL
		Cytokine Panel 1 (human) Control 1	1360	pg/mL
		Cytokine Panel 1 (human) Control 2	235	pg/mL
		Cytokine Panel 1 (human) Control 3	40	pg/mL
6	NHP IL-15	Calibrator	842	pg/mL
		Cytokine Panel 1 (human) Control 1	280	pg/mL
		Cytokine Panel 1 (human) Control 2	50	pg/mL
		Cytokine Panel 1 (human) Control 3	10	pg/mL
7	NHP IL-16	Calibrator	2800	pg/mL
		Cytokine Panel 1 (human) Control 1	1180	pg/mL
		Cytokine Panel 1 (human) Control 2	335	pg/mL
		Cytokine Panel 1 (human) Control 3	110	pg/mL
8	NHP IL-17A	Calibrator	6480	pg/mL
		Cytokine Panel 1 (human) Control 1	2210	pg/mL
		Cytokine Panel 1 (human) Control 2	310	pg/mL
		Cytokine Panel 1 (human) Control 3	50	pg/mL
9	NHP TNF- β	Calibrator	733	pg/mL
		Cytokine Panel 1 (human) Control 1	230	pg/mL
		Cytokine Panel 1 (human) Control 2	42	pg/mL
		Cytokine Panel 1 (human) Control 3	6.4	pg/mL
10	NHP VEGF	Calibrator	1490	pg/mL
		Cytokine Panel 1 (human) Control 1	410	pg/mL
		Cytokine Panel 1 (human) Control 2	140	pg/mL
		Cytokine Panel 1 (human) Control 3	50	pg/mL

Controls tested may not be the same lot as shipped.

The calibrator and controls for this assay contain a human recombinant cytokine calibrator sequence that is highly homologous to the non-human primate cytokine. This assay has been verified to cross-react with homologs of rhesus and cynomolgus monkeys. See Product Insert for experimental data.

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Standard Curve Data:

NHP GM-CSF - Spot 1		
Conc. pg/mL	ECL Signal	%CV
1100	436,000	2.2
275	127,000	3.5
68.8	32,400	3.7
17.2	8,520	3.8
4.30	2,180	3.1
1.07	681	5.7
0.269	288	5.6
0.00	158	14.0

NHP IL-5 - Spot 3		
Conc. pg/mL	ECL Signal	%CV
877	676,000	4.2
219	189,000	2.3
54.8	49,300	2.2
13.7	12,500	1.8
3.43	3,360	3.1
0.856	1,050	3.3
0.214	490	6.7
0.00	280	8.9

NHP IL-7 - Spot 4		
Conc. pg/mL	ECL Signal	%CV
881	553,000	1.3
220	134,000	1.8
55.1	32,000	1.9
13.8	8,270	2.7
3.44	2,080	2.9
0.860	638	4.0
0.215	258	6.8
0.00	133	19.0

NHP IL-12/23p40 - Spot 5		
Conc. pg/mL	ECL Signal	%CV
3690	627,000	3.0
923	175,000	1.7
231	45,600	2.8
57.7	11,900	2.9
14.4	2,970	2.8
3.60	853	2.4
0.901	302	5.7
0.00	118	16.0

NHP IL-15 - Spot 6		
Conc. pg/mL	ECL Signal	%CV
842	547,000	3.1
211	90,900	3.8
52.6	22,800	3.5
13.2	5,790	4.9
3.29	1,530	3.1
0.822	453	4.3
0.206	184	9.7
0.00	105	14.0

NHP IL-16 - Spot 7		
Conc. pg/mL	ECL Signal	%CV
2800	603,000	2.5
700	118,000	1.7
175	20,900	2.5
43.8	4,400	3.5
10.9	1,150	3.6
2.73	375	8.1
0.684	177	14.0
0.00	120	27.0

NHP IL-17A - Spot 8		
Conc. pg/mL	ECL Signal	%CV
6480	1,710,000	2.6
1620	491,000	2.2
405	127,000	2.7
101	32,500	2.4
25.3	7,960	2.4
6.33	2,200	2.4
1.58	683	7.5
0.00	205	15.0

NHP TNF-β - Spot 9		
Conc. pg/mL	ECL Signal	%CV
733	1,260,000	3.4
183	294,000	2.9
45.8	68,000	3.0
11.5	17,000	2.9
2.86	4,710	2.9
0.716	1,300	3.3
0.179	479	3.3
0.00	200	12.0

NHP VEGF - Spot 10		
Conc. pg/mL	ECL Signal	%CV
1490	1,270,000	2.0
373	248,000	1.9
93.1	46,300	2.1
23.3	9,860	3.2
5.82	2,560	2.2
1.46	716	2.8
0.364	279	10.0
0.00	135	31.0

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Components:

Description	Lot Number	Storage Temperature	Expiration Date
Cytokine Panel 1 (human) Plate	Z0046690	2-8°C	30 Apr 2020
Anti-hu GM-CSF Antibody	D0081052	2-8°C	30 Apr 2020
Anti-hu IL-5 Antibody	D0081054	2-8°C	30 Apr 2020
Anti-hu IL-7 Antibody	D0081055	2-8°C	30 Apr 2020
Anti-hu IL-12/23p40 Antibody	D0081040	2-8°C	31 Mar 2020
Anti-hu IL-15 Antibody	D0080983	2-8°C	31 Oct 2019
Anti-hu IL-16 Antibody	D0081056	2-8°C	30 Apr 2020
Anti-hu IL-17A Antibody	D0080984	2-8°C	31 Oct 2019
Anti-hu TNF-β Antibody	D0081057	2-8°C	30 Apr 2020
Anti-hu VEGF Antibody	D0081058	2-8°C	31 May 2020
Cytokine Panel 1 (human) Calibrator Blend	A0080144	2-8°C	31 Aug 2022
Diluent 43	M0430020	≤ -10°C	30 Jun 2019
Diluent 3	M0030074	≤ -10°C	30 Jun 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
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	<i>Dawn Stollar</i>	21 FEB 2018