

**CERTIFICATE OF ANALYSIS**

**Product Description:** V-Plex® and V-Plex Plus TH17 Panel 1 (human) Kit  
**Kit Catalog Numbers:** K15085-Series  
**Kit Lot Number:** K0080688  
**Expiration Date:** 31 Jan 2019

**Acceptance Data/ Percent Recovery Specifications:**

Spot	Name	Calibrator		TH17 Panel 1 (human) Control 1		TH17 Panel 1 (human) Control 2		TH17 Panel 1 (human) Control 3	
		Recovery	CV	Recovery	CV	Recovery	CV	Recovery	CV
1	hu IL-17A	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
4	hu IL-21	80% - 120%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%	75% - 125%	< 20%
5	hu IL-31	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
6	hu IL-27	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
7	hu IL-23	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
8	hu IL-22	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%
10	hu MIP-3α	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%	80% - 120%	< 20%

Spot	Name	LLOQ			ULOQ		
		Value	Recovery	CV	Value	Recovery	CV
1	hu IL-17A	5.86	80% - 120%	< 20%	1950	80% - 120%	< 20%
4	hu IL-21	1.65	80% - 120%	< 20%	650	80% - 120%	< 20%
5	hu IL-31	4.22	80% - 120%	< 20%	650	80% - 120%	< 20%
6	hu IL-27	38.7	80% - 120%	< 20%	13000	80% - 120%	< 20%
7	hu IL-23	4.55	80% - 120%	< 20%	3250	80% - 120%	< 20%
8	hu IL-22	2.78	80% - 120%	< 20%	325	80% - 120%	< 20%
10	hu MIP-3α	0.590	80% - 120%*	< 20%	325	80% - 120%	< 20%

\* See Additional Comments.

**Acceptance Data/ Non Specific Binding Specifications:**

Spot	Name	NSB Spec
1	hu IL-17A	< 1.0%
4	hu IL-21	< 1.0%
5	hu IL-31	< 1.0%
6	hu IL-27	< 1.0%
7	hu IL-23	< 1.0%
8	hu IL-22	< 1.0%
10	hu MIP-3α	< 1.0%

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**Stock Concentration of Material Tested :**

Spot	Name	Item	Conc	Units
1	hu IL-17A	Calibrator	2600	pg/mL
		TH17 Panel 1 (human) Control 1	2725	pg/mL
		TH17 Panel 1 (human) Control 2	413	pg/mL
		TH17 Panel 1 (human) Control 3	57	pg/mL
4	hu IL-21	Calibrator	913	pg/mL
		TH17 Panel 1 (human) Control 1	886	pg/mL
		TH17 Panel 1 (human) Control 2	172	pg/mL
		TH17 Panel 1 (human) Control 3	26	pg/mL
5	hu IL-31	Calibrator	895	pg/mL
		TH17 Panel 1 (human) Control 1	954	pg/mL
		TH17 Panel 1 (human) Control 2	148	pg/mL
		TH17 Panel 1 (human) Control 3	22	pg/mL
6	hu IL-27	Calibrator	15100	pg/mL
		TH17 Panel 1 (human) Control 1	15017	pg/mL
		TH17 Panel 1 (human) Control 2	3221	pg/mL
		TH17 Panel 1 (human) Control 3	1055	pg/mL
7	hu IL-23	Calibrator	4350	pg/mL
		TH17 Panel 1 (human) Control 1	4173	pg/mL
		TH17 Panel 1 (human) Control 2	464	pg/mL
		TH17 Panel 1 (human) Control 3	53	pg/mL
8	hu IL-22	Calibrator	523	pg/mL
		TH17 Panel 1 (human) Control 1	537	pg/mL
		TH17 Panel 1 (human) Control 2	98	pg/mL
		TH17 Panel 1 (human) Control 3	16	pg/mL
10	hu MIP-3 $\alpha$	Calibrator	443	pg/mL
		TH17 Panel 1 (human) Control 1	592	pg/mL
		TH17 Panel 1 (human) Control 2	235	pg/mL
		TH17 Panel 1 (human) Control 3	83	pg/mL

Controls tested may not be the same lot as shipped.

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### Standard Curve Data:

hu IL-17A - Spot 1		
Conc. pg/mL	ECL Signal	%CV
2600	514,000	2.2
650	124,000	3.3
163	30,300	3.3
40.6	7,580	3.0
10.2	2,070	3.2
2.54	778	4.9
0.635	434	7.6
0.00	329	9.8

hu IL-21 - Spot 4		
Conc. pg/mL	ECL Signal	%CV
913	350,000	2.4
228	103,000	3.0
57.1	23,600	2.9
14.3	6,090	2.7
3.57	1,730	4.3
0.892	727	4.0
0.223	470	9.4
0.00	359	9.4

hu IL-31 - Spot 5		
Conc. pg/mL	ECL Signal	%CV
895	483,000	1.9
224	150,000	2.3
55.9	39,400	2.2
14.0	9,980	2.1
3.50	2,580	2.0
0.874	754	3.4
0.219	301	8.9
0.00	139	16.0

hu IL-27 - Spot 6		
Conc. pg/mL	ECL Signal	%CV
15100	217,000	2.5
3780	43,700	3.4
944	10,200	3.5
236	2,620	2.4
59.0	860	2.8
14.7	418	4.4
3.69	297	6.1
0.00	258	6.7

hu IL-23 - Spot 7		
Conc. pg/mL	ECL Signal	%CV
4350	386,000	3.6
1090	115,000	5.2
272	30,200	3.4
68.0	7,520	3.6
17.0	2,120	3.6
4.25	719	5.4
1.06	393	6.5
0.00	280	7.6

hu IL-22 - Spot 8		
Conc. pg/mL	ECL Signal	%CV
523	459,000	3.6
131	130,000	5.1
32.7	34,000	3.9
8.17	9,090	6.4
2.04	3,060	4.5
0.511	1,610	4.3
0.128	1,260	6.8
0.00	1,150	7.2

hu MIP-3 $\alpha$ - Spot 10		
Conc. pg/mL	ECL Signal	%CV
443	597,000	1.8
111	132,000	3.7
27.7	24,100	5.9
6.92	5,320	5.3
1.73	1,520	3.8
0.433	634	6.4
0.108	397	11.0
0.00	319	11.0

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### Components:

Description	Lot Number	Storage Temperature	Expiration Date
TH17 Panel 1 (human) Plate	Z0046334	2-8°C	30 Jun 2019
Anti-hu IL-17A Antibody	D0080754	2-8°C	31 Jan 2019
Anti-hu IL-21 Antibody	D0080757	2-8°C	31 Jan 2019
Anti-hu IL-31 Antibody	D0080761	2-8°C	31 Jan 2019
Anti-hu IL-27 Antibody	D0080760	2-8°C	31 Jan 2019
Anti-hu IL-23 Antibody	D0080759	2-8°C	31 Jan 2019
Anti-hu IL-22 Antibody	D0080895	2-8°C	31 Jul 2019
Anti-hu MIP-3 $\alpha$ Antibody	D0080763	2-8°C	31 Jan 2019
TH17 Panel 1 (human) Calibrator Blend	A0080111	2-8°C	30 Nov 2021
Diluent 43	M0430020	$\leq$ -10°C	30 Jun 2019
Diluent 3	M0030074	$\leq$ -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
TH17 Panel 1 (human) Control 1	Not Kit Specific
TH17 Panel 1 (human) Control 2	Not Kit Specific
TH17 Panel 1 (human) Control 3	Not Kit Specific

### Additional Comments:

	Assay	Spot	Specification	Comment
1	hu MIP-3 $\alpha$	10	LLOQ Conc.	Observed LLOQ recovery is 120.1%

### 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		22 JUN 2017