

## CERTIFICATE OF ANALYSIS

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**Product Description:** V-PLEX® and V-PLEX Plus Angiogenesis Panel 1 (human) Kit  
**Kit Catalog Numbers:** K15190-Series; K151RZ-Series; K151KW-Series  
**Kit Lot Number:** K0081316  
**Expiration Date:** 30 Sep 2021

### Acceptance Data/ Percent Recovery Specifications:

Spot	Name	Calibrator		Angiogenesis Control 1		Angiogenesis Control 2		Angiogenesis Control 3	
		Recovery	CV	Recovery	CV	Recovery	CV	Recovery	CV
1	VEGF-A	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
2	VEGF-C	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
3	VEGF-D	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
4	Tie-2	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
5	Flt-1	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
6	PlGF	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%
7	bFGF	80% - 120%	< 20%	75% - 125%	< 25%	75% - 125%	< 25%	75% - 125%	< 25%

Spot	Name	LLOQ			ULOQ		
		Value	Recovery	CV	Value	Recovery	CV
1	VEGF-A	5.00	80% - 120%	< 20%	1510	80% - 120%	< 20%
2	VEGF-C	146	80% - 120%	< 20%	17500	80% - 120%	< 20%
3	VEGF-D	67.1	80% - 120%	< 20%	18800	80% - 120%	< 20%
4	Tie-2	396	80% - 120%	< 20%	63400	80% - 120%	< 20%
5	Flt-1	10.0	80% - 120%	< 25%	6410	80% - 120%	< 20%
6	PlGF	1.50	80% - 120%	< 25%	800	80% - 120%	< 25%
7	bFGF	2.60	80% - 120%	< 25%	1780	80% - 120%	< 20%

### Acceptance Data/ Non Specific Binding Specifications:

Spot	Name	VEGF	VEGF-C	VEGF-D	Tie-2	Flt-1
1	VEGF-A	NA	< 0.5%	< 0.5%	< 0.5%	< 10.0%
2	VEGF-C	< 0.5%	NA	< 0.5%	< 0.5%	< 0.5%
3	VEGF-D	< 0.5%	< 5.0%	NA	< 0.5%	< 0.5%
4	Tie-2	< 0.5%	< 0.5%	< 0.5%	NA	< 0.5%
5	Flt-1	< 10.0%	< 5.0%	< 0.5%	< 0.5%	NA
6	PlGF	< 0.5%	< 0.5%	< 0.5%	< 0.5%	< 0.5%
7	bFGF	< 0.5%	< 0.5%	< 0.5%	< 0.5%	< 0.5%

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Spot	Name	PIGF	bFGF
1	VEGF-A	< 0.5%	< 0.5%
2	VEGF-C	< 0.5%	< 0.5%
3	VEGF-D	< 0.5%	< 0.5%
4	Tie-2	< 0.5%	< 0.5%
5	Flt-1	< 0.5%	< 0.5%
6	PIGF	NA	< 0.5%
7	bFGF	< 0.5%	NA

**Stock Concentration of Material Tested :**

Spot	Name	Item	Conc	Units
1	VEGF-A	20X Calibrator	46700	pg/mL
		Angiogenesis Control 1	444	pg/mL
		Angiogenesis Control 2	89.4	pg/mL
		Angiogenesis Control 3	16.6	pg/mL
2	VEGF-C	20X Calibrator	534000	pg/mL
		Angiogenesis Control 1	5710	pg/mL
		Angiogenesis Control 2	1560	pg/mL
		Angiogenesis Control 3	380	pg/mL
3	VEGF-D	20X Calibrator	551000	pg/mL
		Angiogenesis Control 1	6720	pg/mL
		Angiogenesis Control 2	896	pg/mL
		Angiogenesis Control 3	92.2	pg/mL
4	Tie-2	20X Calibrator	1920000	pg/mL
		Angiogenesis Control 1	20000	pg/mL
		Angiogenesis Control 2	6480	pg/mL
		Angiogenesis Control 3	444	pg/mL
5	Flt-1	20X Calibrator	187000	pg/mL
		Angiogenesis Control 1	2310	pg/mL
		Angiogenesis Control 2	291	pg/mL
		Angiogenesis Control 3	27	pg/mL
6	PIGF	20X Calibrator	22500	pg/mL
		Angiogenesis Control 1	260	pg/mL
		Angiogenesis Control 2	61.6	pg/mL
		Angiogenesis Control 3	12.2	pg/mL
7	bFGF	20X Calibrator	50200	pg/mL
		Angiogenesis Control 1	559	pg/mL
		Angiogenesis Control 2	62.7	pg/mL
		Angiogenesis Control 3	5.88	pg/mL

Controls tested may not be the same lot as shipped.

Concentrations provided in this table refer to the stock concentration of the calibrators. For top of the standard curve concentrations, please refer to the Standard Curve Data

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**Standard Curve Data:**

VEGF-A - Spot 1		
Conc. pg/mL	ECL Signal	%CV
2340	866,000	2.3
584	227,000	2.3
146	54,700	1.8
36.5	13,300	2.6
9.12	3,640	2.9
2.28	1,050	2.9
0.570	384	5.8
0.00	172	5.9

VEGF-C - Spot 2		
Conc. pg/mL	ECL Signal	%CV
26700	663,000	7.3
6680	122,000	5.0
1670	21,500	6.3
417	4,710	6.0
104	1,390	5.2
26.1	559	4.1
6.52	344	4.9
0.00	271	5.4

VEGF-D - Spot 3		
Conc. pg/mL	ECL Signal	%CV
27600	1,200,000	9.3
6890	433,000	9.9
1720	99,300	7.4
430	18,300	9.1
108	4,060	8.1
26.9	1,150	8.0
6.73	458	12.0
0.00	278	25.0

Tie-2 - Spot 4		
Conc. pg/mL	ECL Signal	%CV
96000	125,000	3.9
24000	30,300	3.1
6000	7,550	3.2
1500	1,980	5.0
375	675	5.8
93.8	428	25.0
23.4	240	5.5
0.00	208	5.9

Flt-1 - Spot 5		
Conc. pg/mL	ECL Signal	%CV
9350	365,000	2.8
2340	94,700	2.2
584	23,800	2.5
146	5,910	2.1
36.5	1,690	2.3
9.13	577	3.3
2.28	286	5.1
0.00	194	5.7

PlGF - Spot 6		
Conc. pg/mL	ECL Signal	%CV
1130	942,000	2.0
281	201,000	1.7
70.3	40,300	1.3
17.6	9,260	1.7
4.39	2,750	2.1
1.10	998	3.5
0.275	560	7.3
0.00	442	16.0

bFGF - Spot 7		
Conc. pg/mL	ECL Signal	%CV
2510	721,000	6.2
628	201,000	6.3
157	51,400	4.1
39.2	12,800	5.7
9.80	3,410	5.0
2.45	979	5.9
0.613	342	6.2
0.00	153	11.0

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### Components:

Description	Lot Number	Storage Temperature	Expiration Date
Angiogenesis Panel 1 (human) Plate	Z0056581	2-8°C	31 Mar 2022
Anti-hu VEGF Antibody	D0081369	2-8°C	30 Apr 2023
Anti-hu VEGF-C Antibody	D0081370	2-8°C	31 May 2023
Anti-hu VEGF-D Antibody	D0081422	2-8°C	30 Apr 2023
Anti-hu Tie-2 Antibody	D0081366	2-8°C	31 Mar 2023
Anti-hu Flt-1 Antibody	D0081256	2-8°C	30 Nov 2022
Anti-hu PlGF Antibody	D0081367	2-8°C	31 Mar 2023
Anti-hu bFGF Antibody	D0081368	2-8°C	31 May 2023
Angiogenesis Panel 1 (human) Calibrator Blend	A0080213	≤ -70°C	31 May 2022
MSD Blocker A	Not Kit Specific	Not Kit Specific	N/A
Diluent 7	M0070059	≤ -10°C	30 Nov 2021
Diluent 11	M0110040	≤ -10°C	30 Sep 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), 100mL	Not Kit Specific
Angiogenesis Control 1	Not Kit Specific
Angiogenesis Control 2	Not Kit Specific
Angiogenesis 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
<b>Review/Approval</b>	Karen Hamilla	Quality		07 JAN 2020