

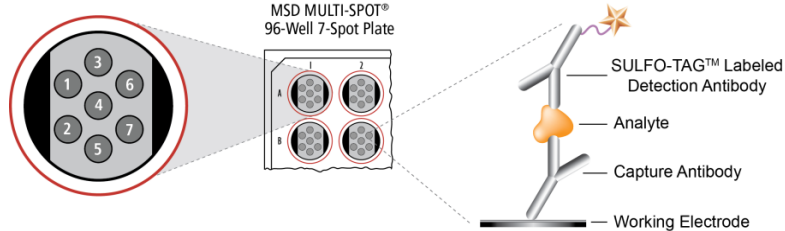
# MSD® Angiogenesis Panel 1 (human) Kit

For quantitative determination in human serum, plasma, and tissue culture supernatants



Alzheimer's Disease  
BioProcess  
Cardiac  
Cell Signaling  
Clinical Immunology  
Cytokines  
Growth Factors  
Hypoxia  
Immunogenicity  
Inflammation  
Metabolic  
**Oncology**  
Toxicology  
**Vascular**

1. VEGF
2. VEGF-C
3. VEGF-D
4. Tie-2
5. sFlt-1
6. PlGF
7. bFGF



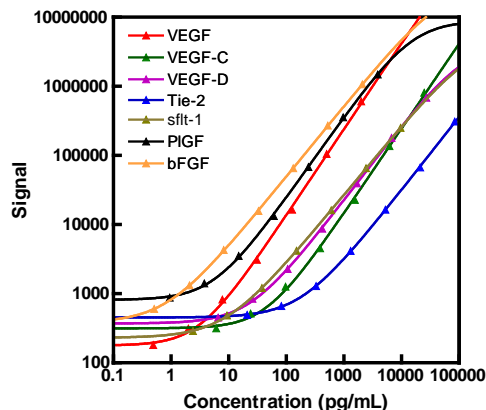
Angiogenesis, the growth of new blood vessels, has emerged as a fundamental step in tumor growth, metastatic progression and results in poor patient outcomes in several disease states including cancer. Understanding the critical regulators and pathways involved in the formation of new blood vessels is a complex process that involves not only neoplastic cells, but also endothelial cells, the basement membranes of neighboring capillaries, and the stroma of a growing tumor mass. The Angiogenesis Panel 1 (human) Kit provides the assay-specific components for the quantitative determination of endogenous VEGF, VEGF-C, VEGF-D, Tie-2, sFlt-1/sVEGR-1, PlGF, and bFGF in human serum, plasma and tissue culture supernatants. The assays have been tested for sensitivity, specificity, spike recovery, dilution linearity, precision, accuracy, robustness, and sample handling. The panel is available on 96-well, 7-spot plates. Representative data from assay development are presented below. Lot-specific standard curves can be found in the certificate of analysis (C of A) supplied with the kit. Visit [www.mesoscale.com](http://www.mesoscale.com) for a complete listing of our products.

## Catalog Numbers

Angiogenesis Panel 1 (human) Kit	
Kit size	
1 plate	K15190D-1
5 plates	K15190D-2
25 plates	K15190D-4

## Assay Sensitivity

The following standard curves illustrate the dynamic range of the assays in the Angiogenesis Panel 1 (human) Kit.



Average LLOD (pg/mL)	VEGF	VEGF-C	VEGF-D	Tie-2
	0.60	8.0	3.4	19
Average LLOD (pg/mL)	sFlt-1	PlGF	bFGF	
	3.0	2.9	0.10	

The lower limit of detection (LLOD) is a calculated concentration based on a signal 2.5 standard deviations above the background (zero calibrator blank). The LLOD shown above was calculated based on 34 runs on 2 lots of plates.

## Ordering information

MSD Customer Service  
Phone: 1-301-947-2085  
Fax: 1-301-990-2776  
Email: [CustomerService@mesoscale.com](mailto:CustomerService@mesoscale.com)

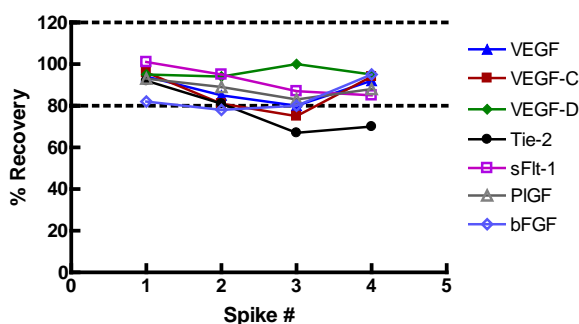
## Company Address

MESO SCALE DISCOVERY®  
division of  
Meso Scale Diagnostics, LLC.  
9238 Gaither Road  
Gaithersburg, MD 20877 USA

[www.mesoscale.com](http://www.mesoscale.com)®

## Spike Recovery

Neat normal human serum samples were spiked with the calibrators at multiple levels throughout the range of the assay, then diluted 2-fold. % Recovery = measured/expected\*100



	Spike Concentration (pg/mL)			
	Spike 1	Spike 2	Spike 3	Spike 4
VEGF	13	53	211	1686
VEGF-C	147	590	2359	18 869
VEGF-D	154	617	2467	19 736
Tie-2	500	1999	7995	63 962
sFlt-1	55	219	875	6998
PlGF	22	88	351	2811
bFGF	13	52	210	1679

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Not for use in diagnostic procedures.



# MSD Vascular Assays

## Tested Samples

Serum, EDTA plasma, and heparin plasma samples were tested at 2-fold dilutions with the Angiogenesis Panel 1 (human) Kit. Median and range of concentrations for each sample set are displayed below. Concentrations are corrected for sample dilution. The LLOQ is the lowest concentration where the %CV of the calculated concentration is less than 20% and the percent recovery of the standard is between 80% and 120%.

Sample Type	Statistic	VEGF	VEGF-C	VEGF-D	Tie-2	sFlt-1	PlGF	bFGF*
Serum	Median (pg/mL)	234	268	2141	3659	932	267	2.4
	Range (pg/mL)	77–598	143–377	1391–3613	837–4215	519–1241	183–402	<LLOQ–6.3
	Number of samples	13	13	13	13	13	13	13
	Samples in Quantitative Range	13	13	13	13	13	13	4
EDTA Plasma	Median (pg/mL)	22	52	1734	3587	1057	202	<LLOQ
	Range (pg/mL)	2–407	28–156	1304–3514	2463–4615	519–1465	157–386	<LLOQ
	Number of samples	13	13	13	13	13	13	13
	Samples in Quantitative Range	13	13	13	13	13	13	None
Heparin Plasma	Median (pg/mL)	111	119	1252	4167	1560	259	-
	Range (pg/mL)	22–448	4–443	900–1811	795–5290	654–2316	175–411	-
	Number of samples	13	13	13	13	13	13	-
	Samples in Quantitative Range	13	13	13	13	13	13	-

\* The LLOQ value for bFGF is 1.0 pg/mL for the sample set tested. Heparin plasma samples are not recommended to be used with bFGF assay.

## Precision

Control samples with high, medium, and low levels of each analyte were measured using a minimum of 2 replicates on 6 runs over 3 days. Controls were made by spiking calibrator into human EDTA plasma. Average intra-run %CV is the average %CV of the control replicates within an individual run. Inter-run %CV is the variability of controls across 6 runs.

	Control	Runs	Average Conc. (pg/mL)	Average Intra-run %CV	Inter-run %CV
VEGF	High	6	515	3.4	5.2
	Mid	6	105	7.6	6.3
	Low	6	14	5.9	9.0
VEGF-C	High	6	7138	2.2	4.6
	Mid	6	476	4.0	8.1
	Low	6	319	7.0	7.7
VEGF-D	High	6	10 154	3.0	5.3
	Mid	6	2085	4.3	4.4
	Low	6	73	1.1	8.0
Tie-2	High	6	17 574	2.5	6.0
	Mid	6	5425	2.9	8.3
	Low	6	1966	5.8	6.4
sFlt-1	High	6	4259	5.6	7.0
	Mid	6	653	6.5	10.9
	Low	6	252	5.0	10.2
PlGF	High	6	1708	5.5	6.3
	Mid	6	298	1.6	6.9
	Low	6	21	3.5	10.8
bFGF	High	6	816	2.3	2.6
	Mid	6	74	2.5	6.1
	Low	6	10	2.5	5.9

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