Magnetic Luminex® Performance Assay Human PlGF Kit

Catalog Number: LANM264
Pack Size: 100 Tests

SPECIFICATIONS AND USE

Recommended Sample Types
- Cell culture supernates, serum, EDTA plasma, heparin plasma, urine, and human milk.

Microparticle Region
- Region-20

Components
- Microparticle Concentrate (Part 894459) is supplied as a 100X concentrated stock (0.075 mL) with preservatives.
- Biotin-Antibody Concentrate (Part 893623) is supplied as a 100X concentrated stock solution (0.075 mL) with preservatives.

Other Supplies Required
- Magnetic Luminex Performance Assay Human Angiogenesis Base Kit A (Catalog Number LANM000).

Storage
- Store the unopened kit at 2-8 °C. Do not use past the expiration date on the label.
- **Avoid freezing microparticles.**
- **Protect microparticles from light.**

Instructions for Use
- Refer to the Base Kit insert for the Magnetic Luminex Performance Assay procedure.

TYPICAL DATA

This human PlGF standard curve is provided only for demonstration. A standard curve must be generated each time an assay is run, utilizing values from the Standard Value Card included in the Base Kit.

Human PlGF
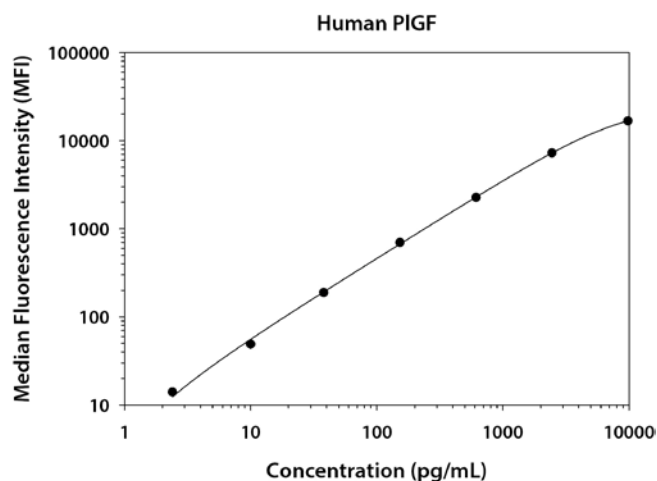
Standard	pg/mL	MFI	Average	Corrected
Blank	0	16 16	16	——
1	9800	16,831 16,837	16,834	16,818
2	2450	7271 7278	7275	7259
3	613	2272 2297	2285	2269
4	153	708 722	715	699
5	38	203 206	205	189
6	10	64 66	65	49
7	2.4	30 30	30	14

PERFORMANCE CHARACTERISTICS

All data were collected with assays run as a multiplex.
Data obtained with polystyrene and magnetic beads were equivalent.

Sensitivity - The Minimum Detectable Dose (MDD) was determined by adding two standard deviations to the MFI of twenty zero standard replicates and calculating the corresponding concentration.

Thirty assays were evaluated, and the MDD of human PlGF ranged from 0.3-1.0 pg/mL. The mean MDD was 0.5 pg/mL.

FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES.

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1-800-343-7475

Intra-assay Precision (precision within an assay) - Three samples of known concentration were tested twenty times on one plate to assess precision within an assay.

Inter-assay Precision (precision between assays) - Three samples of known concentration were tested in fifty-two separate assays to assess precision between assays.

	Intra-assay Precision			Inter-assay Precision		
Sample	1	2	3	1	2	3
n	20	20	20	52	52	52
Mean (pg/mL)	27.7	104	2208	31.6	123	2060
Standard Deviation	0.7	2.8	95.6	4.4	13.6	219
% CV	2.5	2.7	4.3	13.8	11.1	10.6

Recovery and Linearity – Samples spiked with high concentrations of PlGF were evaluated for recovery. Samples were serially diluted to evaluate assay linearity.

Recovery			Linearity								
Sample Type	Average % Recovery	Range %			Cell culture supernates	Serum	EDTA plasma	Heparin plasma	Platelet-poor EDTA plasma	Platelet-poor Heparin plasma	Urine
Cell culture supernates	109	82-129	1:2	Average % of Expected	94	96	96	94	96	99	105
Serum	105	78-124		Range (%)	84-117	86-100	86-103	81-105	94-99	96-101	77-115
EDTA plasma	108	90-124	1:4	Average % of Expected	89	101	96	94	97	98	111
Heparin plasma	108	89-143		Range (%)	79-109	96-108	87-105	85-105	96-99	93-106	100-126
PP EDTA plasma	103	73-118	1:8	Average % of Expected	85	104	98	94	98	97	106
PP Heparin plasma	99	76-118		Range (%)	72-104	94-110	87-109	86-105	96-102	91-104	92-116
Urine	94	47-102									

Specificity - This assay recognizes natural and recombinant human PlGF. The assay was tested for cross-reactivity and interference with the following factors. Less than 0.5% cross-reactivity and interference was observed unless otherwise noted.

Recombinant human:

Angiopoietin-2	FGF-17	IGF-II R
Angiopoietin-4	FGF-18	IGFBP-1
Angiopoietin-like 3	FGF-19	IGFBP-2
Angiopoietin-like 4	FGF-20	KGF/FGF-7
CTGF	FGF-21	MSP
EG-VEGF	FGF-22	MSP-β
FGF-3	FGF R1α	M-CSF
FGF-4	FGF R3	β-NGF
FGF-5	FGF R4	PD-ECGF
FGF-6	Flt-3	PDGF-CC
FGF-8a	Flt-3 Ligand	PDGF-DD
FGF-8e	G-CSF	VEGF-C
FGF-8f	G-CSF R	VEGF R1
FGF-9	GM-CSF	VEGF R2
FGF-10	HB-EGF	VEGF R3
FGF-11	HRG-α	Thrombospondin-1
FGF-12	IGF-I	Thrombospondin-4
FGF-13	IGF-I R	
FGF-16	IGF-II	

Recombinant mouse:

EG-VEGF	HGF
EGF	HGF R
EGF R	IGF-I
FGF-8b	IGF-II
FGF-8c	IGFBP-1
FGF-15	KGF/FGF-7
FGF-21	M-CSF
FGF-23	PDGF-CC
FGF R3	PlGF-2
Flt-3	Thrombospondin-1
Flt-3 Ligand	VEGF-B167
G-CSF	VEGF R2
GM-CSF	VEGF R3

Recombinant rat:

EGF
FGF basic
FGF-BP
β-NGF
PDGF-BB
VEGF164

Recombinant porcine:

GM-CSF

Recombinant human multiplex partners:

Angiogenin
Angiopoietin-1
Endostatin
FGF acidic
FGF basic
PDGF-AA
PDGF-BB
Thrombospondin-2
VEGF
VEGF-D

Recombinant human VEGF/PlGF cross-reacts approximately 19.1% in this assay.
Recombinant human VEGF R1 interferes at concentrations > 3125 pg/mL.
Recombinant mouse VEGF R1 interferes at concentrations > 781 pg/mL.

TECHNICAL HINTS

- Protect the microparticles and streptavidin-PE from light at all times.
- Refer to the Base Kit Standard Value Card for reconstitution volume and values of the reconstituted standard.
- Diluted microparticles cannot be stored. Make a fresh dilution of microparticles each time the assay is run.
- The use of a magnetic device made to accommodate a microplate is necessary for washing.
- Discrepancies may exist in values obtained for the same analyte utilizing different technologies.

Luminex Performance Assays afford the user the benefit of multianalyte analysis of biomarkers in a complex sample. For each sample type, a single, multipurpose diluent is used to optimize recovery, linearity, and reproducibility. Such a multipurpose diluent may not optimize any single analyte to the same degree that a unique diluent selected for analysis of that analyte can optimize conditions. Therefore, some performance characteristics may be more variable than those for assays designed specifically for single analyte analysis.

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