Magnetic Luminex® Performance Assay Human Angiopoietin-1 Kit

Catalog Number: LANM923
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-25

Components
- Microparticle Concentrate (Part 894453) is supplied as a 100X concentrated stock (0.075 mL) with preservatives.
- Biotin-Antibody Concentrate (Part 893620) is supplied as a 100X concentrated stock solution (0.075 mL) with preservatives.

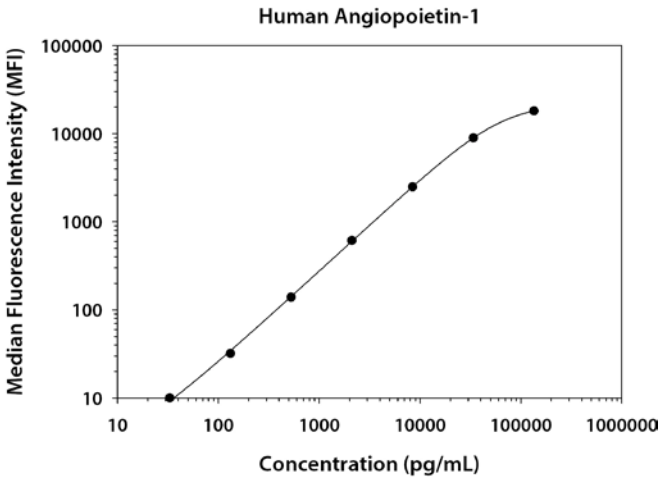
Other Supplies Required
- Magnetic Luminex Performance Assay Human Angiogenesis Base Kit A (Catalog Number LANM000).

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 Angiopoitein-1 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.



Standard	pg/mL	MFI	Average	Corrected
Blank	0	64 65	65	——
1	135,000	18,122 18,252	18,187	18,122
2	33,750	8964 9039	9002	8937
3	8438	2528 2577	2553	2488
4	2109	667 686	677	612
5	527	202 205	204	139
6	132	95 98	97	32
7	33	74 75	75	10

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 Angiopoietin-1 ranged from 11.8-51.1 pg/mL. The mean MDD was 26.0 pg/mL.

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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)	167	618	10,420	155	687	10,166
Standard Deviation	9.8	21.4	273	25.2	11.6	1252
% CV	5.9	3.5	2.6	16.3	11.3	12.3

Recovery and Linearity – Samples spiked with high concentrations of Angiopoietin-1 were evaluated for recovery. Samples were serially diluted to evaluate assay linearity.

Recovery			Linearity								
									Platelet-poor		
Sample Type	Average % Recovery	Range %			Cell culture supernates	Serum	EDTA plasma	Heparin plasma	EDTA plasma	Heparin plasma	Urine
Cell culture supernates	108	84-131	1:2	Average % of Expected	92	105	100	99	106	110	88
Serum	104	63-139		Range (%)	83-111	94-114	89-118	95-105	99-114	106-117	83-93
EDTA plasma	92	66-118	1:4	Average % of Expected	84	105	90	98	107	111	80
Heparin plasma	91	62-123		Range (%)	71-105	84-124	77-119	71-142	101-116	103-122	71-87
PP EDTA plasma	77	64-87	1:8	Average % of Expected	72	106	83	92	110	113	75
PP Heparin plasma	74	55-89		Range (%)	67-114	91-127	56-104	78-107	100-119	106-123	63-82
Urine	108	92-120									

Specificity - This assay recognizes natural and recombinant human Angiopoietin-1. The assay was tested for cross-reactivity and interference with the following factors. Less than 0.5% cross-reactivity and interference was observed.

Recombinant human:			Recombinant mouse:		Recombinant rat:	Recombinant porcine:	Recombinant human multiplex partners:
Angiopoietin-2	FGF-17	IGF-II R	EG-VEGF	HGF	EGF	GM-CSF	Angiogenin
Angiopoietin-4	FGF-18	IGFBP-1	EGF	HGF R	FGF basic		Endostatin
Angiopoietin-like 3	FGF-19	IGFBP-2	EGF R	IGF-I	FGF-BP		FGF acidic
Angiopoietin-like 4	FGF-20	KGF/FGF-7	FGF-8b	IGF-II	β-NGF		FGF basic
CTGF	FGF-21	MSP	FGF-8c	IGFBP-1	PDGF-BB		PDGF-AA
EG-VEGF	FGF-22	MSP-β	FGF-15	KGF/FGF-7	$VEGF_{164}$		PDGF-BB
FGF-3	FGF R1α	M-CSF	FGF-21	M-CSF			PIGF
FGF-4	FGF R3	β-NGF	FGF-23	PDGF-CC			Thrombospondin-2
FGF-5	FGF R4	PD-ECGF	FGF R3	PIGF-2			VEGF
FGF-6	Flt-3	PDGF-CC	Flt-3	Thrombospondin-1			VEGF-D
FGF-8a	Flt-3 Ligand	PDGF-DD	Flt-3 Ligand	$VEGF\text{-}B_{167}$			
FGF-8e	G-CSF	VEGF-C	G-CSF	VEGF R2			
FGF-8f	G-CSF R	VEGF R1	GM-CSF	VEGF R3			
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						

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.