



Magnetic Luminex® Performance Assay Human GM-CSF Kit

Catalog Number: LUHM215

Pack Size: 100 Tests

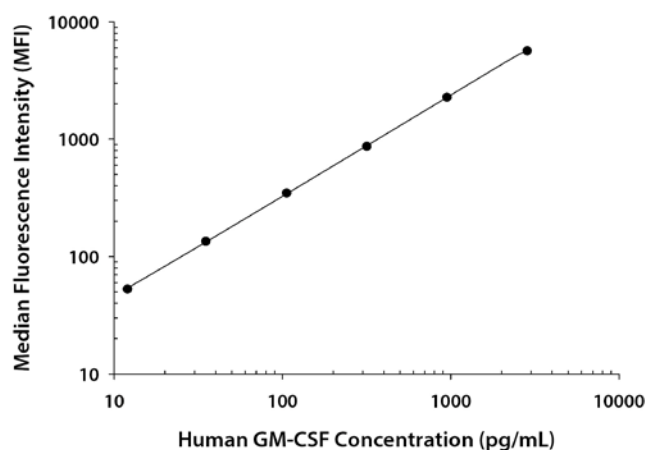
SPECIFICATIONS AND USE

- Recommended Sample Types**
- Cell culture supernates, serum, EDTA plasma, and heparin plasma.
- Microparticle Region**
- Region-15
- Components**
- Microparticle Concentrate (Part 894443) is supplied as a 100X concentrated stock (0.075 mL) with preservatives.
 - Biotin-Antibody Concentrate (Part 892982) is supplied as a 100X concentrated stock solution (0.075 mL) with preservatives.
- Other Supplies Required**
- Magnetic Luminex Performance Assay Human Base Kit A (Catalog Number LUHM000).
- 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 Luminex Performance Assay procedure.

TYPICAL DATA

This human GM-CSF 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.

Note: This kit utilizes a six point standard curve. When fitting a standard curve constructed with the recommended 3-fold dilution series, use the first six points for the GM-CSF kit (omit the lowest concentration standard).



Standard	pg/mL	MFI	Average	Corrected
Blank	0	18 19	19	—
1	2850	5668 5711	5690	5671
2	950	2298 2300	2299	2280
3	317	884 894	889	870
4	106	364 368	366	348
5	35	153 154	154	135
6	12	71 72	72	53

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.

Forty-three assays were evaluated, and the MDD of human GM-CSF ranged from 0.40-1.98 pg/mL. The mean MDD was 1.05 pg/mL.

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

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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 twenty separate assays to assess precision between assays.

	Intra-assay Precision				Inter-assay Precision		
Sample	1	2	3		1	2	3
n	20	20	20		20	20	20
Mean (pg/mL)	19	48	527		57	662	736
Standard Deviation	1.2	2.1	13.3		5.9	61	109
% CV	6.3	4.4	2.5		10.3	9.2	14.8

Recovery and Linearity – Samples containing and/or spiked with high concentrations of GM-CSF were evaluated for recovery and were serially diluted to evaluate assay linearity.

Recovery			Linearity					
Sample Type	Average % Recovery	Range (%)			Cell culture supernates	Serum	EDTA Plasma	Heparin Plasma
Cell culture supernates	85	82-87	1:2	Average % of Expected	100	98	99	97
				Range (%)	88-132	95-102	90-107	94-102
Serum	92	80-105	1:4	Average % of Expected	99	91	96	91
				Range (%)	79-126	84-98	84-104	89-97
EDTA plasma	100	91-103	1:8	Average % of Expected	96	87	95	88
				Range (%)	75-122	80-92	83-107	83-92
Heparin plasma	102	85-110						

Specificity - This assay recognizes natural and recombinant human GM-CSF. 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:	
6Ckine	IL-1 RII	IL-17	G-CSF	IL-8	GM-CSF	GM-CSF	ENA-78	IL-8
CNTF	IL-2 R α	IL-18	GM-CSF	IL-10	IFN- γ	IL-1 α	FGF basic	IL-10
β -ECGF	IL-2 R β	LIF	IFN- γ	IL-17	IL-1 α	IL-1 β	G-CSF	IL-17
FGF acidic	IL-2 R γ	LIF R	IL-1 α	MIP-1 α	IL-1 β	IL-2	IFN- γ	MCP-1
FGF-4	IL-3 R α	MIP-1 α	IL-1ra	MIP-1 β	IL-2	IL-4	IL-1 α	MIP-1 α
FGF-5	IL-4 R	MIP-3 α	IL-1	RANTES	IL-4	IL-6	IL-1 β	MIP-1 β
FGF-6	IL-5 R α	MIP-3 β	IL-2	Tpo	IL-6	IL-8	IL-1ra	RANTES
FGF-9	IL-6 R	MCP-2	IL-4	TNF- α	IL-10	IL-10	IL-2	Tpo
FGF-10	IL-10 R	MCP-3	IL-5	VEGF	TNF- α	Leptin	IL-4	TNF- α
FGF-18	IL-3	MCP-4	IL-6			TNF- α	IL-5	VEGF
GCP-2	IL-7	M-CSF					IL-6	
GRO α	IL-9	TNF RI						
GRO β	IL-11	TNF- α						
GRO γ	IL-12 p40	VEGF ₁₂₁						
I-309	IL-12 p70	VEGF ₁₆₅						
IGF-I	IL-13	VEGF-D						
IGF-II	IL-15							
IL-1 RI	IL-16							

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.