



Magnetic Luminex® Performance Assay Human CCL2/MCP-1 Kit

Catalog Number: LUHM279

Pack Size: 100 Tests

SPECIFICATIONS AND USE

Recommended Sample Types

Microparticle Region

Components

Other Supplies Required

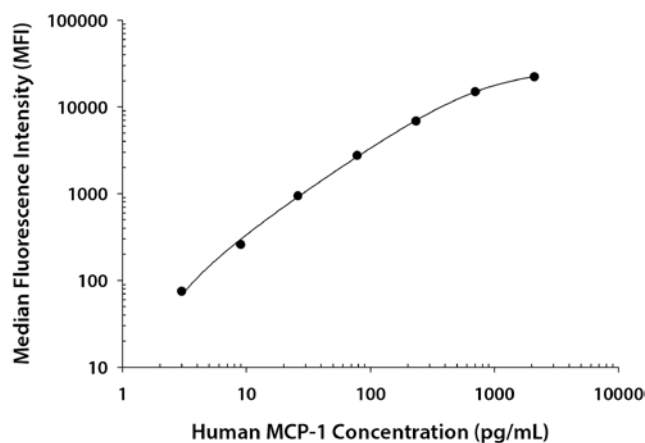
Storage

Instructions for Use

- Cell culture supernates, serum, EDTA plasma, and heparin plasma.
- Region-33
- Microparticle Concentrate (Part 894447) is supplied as a 100X concentrated stock (0.075 mL) with preservatives.
- Biotin-Antibody Concentrate (Part 892634) is supplied as a 100X concentrated stock solution (0.075 mL) with preservatives.
- Magnetic Luminex Performance Assay Human Base Kit A (Catalog Number LUHM000).
- 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.**
- Refer to the Base Kit insert for the Luminex Performance Assay procedure.

TYPICAL DATA

This human MCP-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	16 17	17	—
1	2100	22,218 22,273	22,246	22,229
2	700	14,905 15,034	14,970	14,953
3	233	6796 6928	6862	6845
4	78	2759 2775	2767	2750
5	26	944 967	956	939
6	9	273 277	275	258
7	3	89 93	91	74

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.

Fourteen assays were evaluated, and the MDD of human MCP-1 ranged from 0.08-0.47 pg/mL. The mean MDD was 0.16 pg/mL.

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

R&D Systems, Inc.

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 twenty-five separate assays to assess precision between assays.

Intra-assay Precision				Inter-assay Precision		
Sample	1	2	3	1	2	3
n	20	20	20	25	25	25
Mean (pg/mL)	58.7	257	1067	66	251	1053
Standard Deviation	2.22	14.7	67.8	5.0	14.0	117
% CV	3.8	5.7	6.4	7.0	5.4	11.1

Recovery and Linearity – Samples containing and/or spiked with high concentrations of MCP-1 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	107	90-121	1:2	Average % of Expected	96	128	113	103
				Range (%)	83-118	97-231	83-163	91-130
Serum	102	90-117	1:4	Average % of Expected	94	137	121	102
				Range (%)	80-122	87-286	83-195	93-136
EDTA plasma	99	68-126	1:8	Average % of Expected	95	138	126	106
				Range (%)	82-114	98-291	86-197	94-149
Heparin plasma	101	94-114						

Specificity - This assay recognizes natural and recombinant human MCP-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:	
6Ckine	IL-1 RII	IL-17	G-CSF	IL-8	GM-CSF	GM-CSF	ENA-78	IL-6
CNTF	IL-2 R α	IL-18	GM-CSF	IL-10	IFN- γ	IL-1 α	FGF basic	IL-8
β -ECGF	IL-2 R β	LIF	IFN- γ	IL-17	IL-1 α	IL-1 β	G-CSF	IL-10
FGF acidic	IL-2 R γ	LIF R	IL-1 α	MIP-1 α	IL-1 β	IL-2	GM-CSF	IL-17
FGF-4	IL-3 R α	MIP-1 α	IL-1ra	MIP-1 β	IL-2	IL-4	IFN- γ	MIP-1 α
FGF-5	IL-4 R	MIP-3 α	IL-1	RANTES	IL-4	IL-6	IL-1 α	MIP-1 β
FGF-6	IL-5 R α	MIP-3 β	IL-2	Tpo	IL-6	IL-8	IL-1 β	RANTES
FGF-9	IL-6 R	MCP-2	IL-4	TNF- α	IL-10	IL-10	IL-1ra	Tpo
FGF-10	IL-10 R	MCP-3	IL-5	VEGF	TNF- α	Leptin	IL-2	TNF- α
FGF-18	IL-3	MCP-4	IL-6			TNF- α	IL-4	VEGF
GCP-2	IL-7	M-CSF					IL-5	
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.