



# Magnetic Luminex® Performance Assay Human MMP-1 Kit

**Catalog Number:** LMPM901

**Pack Size:** 100 Tests

## SPECIFICATIONS AND USE

### MMP Forms Measured

- This kit measures pro-, mature, and TIMP-1 complexed MMP-1.

### Recommended Sample Types

- Cell culture supernates, serum, heparin plasma, platelet-poor heparin plasma, saliva, and urine.

### Microparticle Region

- Region-20

### Components

- Microparticle Concentrate (Part 894465) is supplied as a 100X concentrated stock (0.075 mL) with preservatives.
- Biotin-Antibody Concentrate (Part 894332) is supplied as a 100X concentrated stock solution (0.075 mL) with preservatives.

### Other Supplies Required

- Magnetic Luminex Performance Assay Human MMP Base Kit (Catalog Number LMPM000).

### Storage

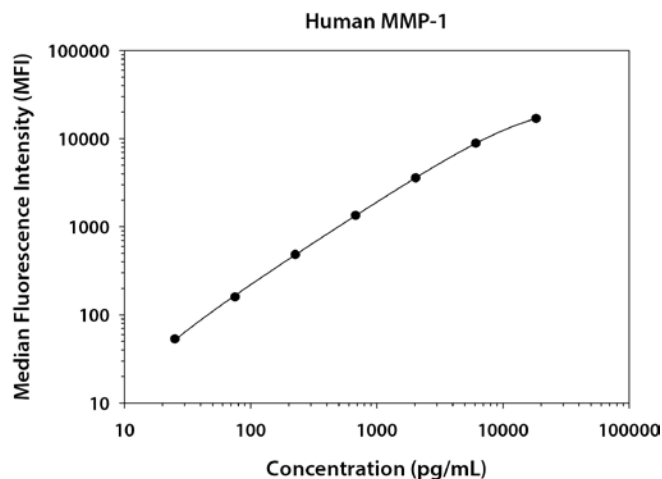
- Store the unopened kit at 2-8 °C. Do not use past the expiration date on the label.
- **Avoid freezing microparticles.**
- **Protect microparticles from light.**

### Instructions for Use

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

## TYPICAL DATA

This human MMP-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	40 41	41	—
1	18,300	15,494 18,602	17,048	17,007
2	6100	8859 8951	8905	8864
3	2033	3556 3696	3626	3585
4	678	1383 1397	1390	1349
5	226	520 529	524	483
6	75.3	200 202	201	160
7	25.1	93 95	94	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.

Thirty assays were evaluated, and the MDD of human MMP-1 ranged from 0.03-1.1 pg/mL. The mean MDD was 0.57 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 separate assays to assess precision between assays.

	Intra-assay Precision				Inter-assay Precision		
Sample	1	2	3		1	2	3
n	20	20	20		59	59	59
Mean (pg/mL)	101	532	2322		89.9	494	2197
Standard Deviation	7.87	49.6	208		14.3	75.6	356
% CV	7.8	9.3	9.0		15.9	15.3	16.2

**Recovery and Linearity** – Samples containing and/or spiked with high concentrations of MMP-1 were evaluated for recovery and were serially diluted to evaluate assay linearity.

Recovery			Linearity					
Sample Type	Average % Recovery	Range (%)		Cell culture media	Serum	Heparin plasma	Platelet-poor heparin plasma	Urine
Cell culture supernates	112	87-132	1:2	Average % of Expected	117	100	96	107
				Range (%)	99-136	89-115	89-108	94-118
Heparin plasma	101	84-141	1:4	Average % of Expected	105	110	94	104
				Range (%)	78-128	103-119	82-128	86-116
Platelet-poor heparin plasma	97	76-121	1:8	Average % of Expected	101	116	103	106
				Range (%)	89-115	99-133	89-128	91-116
Urine	108	83-125						

**Specificity** - This assay recognizes natural and recombinant human pro-, mature, and TIMP-1 complexed MMP-1. The assay was tested for cross-reactivity and interference with the following factors. Less than 0.5% cross-reactivity and interference was observed with the following.

Recombinant human:			Recombinant mouse:		Recombinant rat:	Recombinant human multiplex partners:
ADAM8	ADAMTSL1.2	Lipocalin-2/NGAL	ADAM9	MMP-3	MMP-8	EMMPRIN
ADAM9	CD44	MMP-14/MT1-MMP	ADAM10	MMP-7		MMP-2
ADAM10	Hyaluronan	MMP-16/MT3-MMP	ADAM15	MMP-8		MMP-3
ADAM12	Integrin $\alpha 3 \beta 1$	TACE/ADAM17	ADAM19	MMP-9		MMP-7
ADAM15	Integrin $\alpha 5$	TIMP-1	EMMPRIN	MMP-12		MMP-8
ADAM19	Integrin $\alpha L$	TIMP-2	Lipocalin-2/NGAL	TIMP-1		MMP-9
ADAM33	Integrin $\alpha M \beta 2$	TIMP-3	MMP-2	TIMP-2		MMP-10
ADAMTS1	Integrin $\alpha V \beta 6$	TIMP-4				MMP-12
ADAMTS4	Integrin $\alpha V \beta 8$	VEGF				MMP-13
ADAMTS5	Lipocalin-1					
ADAMTS13						

## 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. 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.