



# Magnetic Luminex® Performance Assay Human MMP-9 Kit

**Catalog Number:** LMPM911

**Pack Size:** 100 Tests

## SPECIFICATIONS AND USE

### MMP Forms Measured

### Recommended Sample Types

### Microparticle Region

### Components

### Other Supplies Required

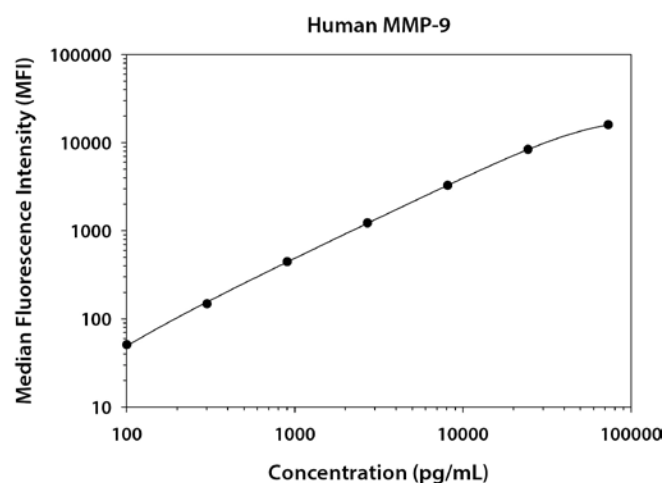
### Storage

### Instructions for Use

- This kit measures pro- and mature MMP-9.
- Cell culture supernates, serum, platelet-poor heparin plasma, saliva, and urine.
- Region-26
- Microparticle Concentrate (Part 894470) is supplied as a 100X concentrated stock (0.075 mL) with preservatives.
- Biotin-Antibody Concentrate (Part 892661) is supplied as a 100X concentrated stock solution (0.075 mL) with preservatives.
- Magnetic Luminex Performance Assay Human MMP Base Kit (Catalog Number LMPM000).
- 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 Magnetic Luminex Performance Assay procedure.

## TYPICAL DATA

This human MMP-9 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 40	40	—
1	73,100	14,526 17,541	16,033	15,993
2	24,367	8251 8598	8424	8384
3	8122	3225 3414	3319	3279
4	2707	1254 1280	1267	1227
5	902	483 486	485	445
6	300.8	188 189	188	148
7	100.3	91 91	91	51

## 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-9 ranged from 2.9-13.7 pg/mL. The mean MDD was 5.7 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)	303	2177	9066		267	1847	7565
Standard Deviation	17.5	82.5	481		31.4	172	796
% CV	5.8	3.8	5.3		11.7	9.3	10.5

**Recovery and Linearity** – Samples containing and/or spiked with high concentrations of MMP-9 were evaluated for recovery and were serially diluted to evaluate assay linearity.

Recovery			Linearity					
Sample Type	Average % Recovery	Range (%)		Cell culture media	Serum	Platelet-poor heparin plasma	Saliva	Urine
Cell culture supernates	89	67-108	1:2	Average % of Expected	111	108	112	113
				Range (%)	97-123	92-121	109-115	93-121
Platelet-poor heparin plasma	97	72-128	1:4	Average % of Expected	115	116	111	110
				Range (%)	96-131	101-125	103-121	88-121
Urine	113	97-123	1:8	Average % of Expected	121	120	112	109
				Range (%)	105-129	110-125	110-118	75-125

**Specificity** - This assay recognizes natural and recombinant human pro- and mature MMP-9. 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-1
ADAM10	Hyaluronan	MMP-16/MT3-MMP	ADAM15	MMP-8		MMP-2
ADAM12	Integrin $\alpha 3 \beta 1$	TACE/ADAM17	ADAM19	MMP-9		MMP-3
ADAM15	Integrin $\alpha 5$	TIMP-2	EMMPRIN	MMP-12		MMP-7
ADAM19	Integrin $\alpha L$	TIMP-3	Lipocalin-2/NGAL	TIMP-1		MMP-8
ADAM33	Integrin $\alpha M \beta 2$	TIMP-4	MMP-2	TIMP-2		MMP-10
ADAMTS1	Integrin $\alpha V \beta 6$	VEGF				MMP-12
ADAMTS4	Integrin $\alpha V \beta 8$	TIMP-2				MMP-13
ADAMTS5	Lipocalin-1					
ADAMTS13						

Recombinant human TIMP-1 interferes with this assay at levels above 1.56 ng/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. 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.