

# Magnetic Luminex® Performance Assay Human MMP-3 Kit

## Catalog Number: LMPM513 Pack Size: 100 Tests

### **SPECIFICATIONS AND USE**

MMP Forms Measured	<ul> <li>This kit measures pro-, mature, and TIMP-1 complexed MMP-3.</li> </ul>
Recommended Sample Types	<ul> <li>Cell culture supernates, serum, heparin plasma, platelet-poor heparin plasma, saliva, and urine.</li> </ul>
Microparticle Region	Region-21
Components	<ul> <li>Microparticle Concentrate (Part 894464) is supplied as a 100X concentrated stock (0.075 mL) with preservatives.</li> </ul>
	<ul> <li>Biotin-Antibody Concentrate (Part 894333) is supplied as a 100X concentrated stock solution (0.075 mL) with preservatives.</li> </ul>
Other Supplies Required	Magnetic Luminex Performance Assay Human MMP Base Kit (Catalog Number LMPM000)
Storage	• Store the unopened kit at 2-8 ℃. 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-3 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.



Stand	dard	pg/mL	MFI	Average	Corrected
Bla	nk	0	19 19	19	
1		25,700	8047 8892	8469	8450
2		8567	4982 5147	5064	5045
3		2856	2118 2162	2140	2121
4	-	952	775 804	789	770
5		317	291 291	291	272
6		106	109 109	109	90
7	,	35.3	49 50	50	31

## **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-3 ranged from 1.2-2.9 pg/mL. The mean MDD was 1.8 pg/mL.

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

**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.

	Int	ra-assay Precisi	on	Inter-assay Precision			
Sample	1	2	3	1	2	3	
n	20	20	20	59	59	59	
Mean (pg/mL)	364	2654	10,800	326	2264	9458	
Standard Deviation	21.4	159	666	37.9	190	1031	
% CV	6.4	5.4	6.3	11.6	8.4	10.9	

**Recovery and Linearity** – Samples containing and/or spiked with high concentrations of MMP-3 were evaluated for recovery and were serially diluted to evaluate assay linearity.

Recovery				Linearity						
Sample Type	Average % Recovery	Range (%)				Cell culture supernates	Serum	Heparin plasma	Platelet-poor heparin plasma	Urine
Cell culture		91-130		1:2	Average % of Expected	102	97	97	97	107
supernates			Range (%)		100-103	91-104	89-106	91-106	92-115	
Urine 105	105	00 114		1.4	Average % of Expected	98	98	93	95	107
	IUS	89-114	09-114	1:4	Range (%)	92-108	89-104	89-95	91-101	98-115
				1:8	Average % of Expected	92	103	98	100	105
					Range (%)	89-95	88-110	91-104	93-106	87-114

**Specificity** - This assay recognizes natural and recombinant human pro-, and mature, and TIMP-1 complexed MMP-3. This assay also recognizes recombinant mouse MMP-3. 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			Recombinant		Recombinant	<b>Recombinant human</b>
human:			mouse:		rat:	multiplex partners:
ADAM8	ADAMTSL1.2	Lipocalin-2/NGAL	ADAM9	MMP-7	MMP-8	EMMPRIN
ADAM9	CD44	MMP-14/MT1-MMP	ADAM10	MMP-8		MMP-1
ADAM10	Hyaluronan	MMP-16/MT3-MMP	ADAM15	MMP-9		MMP-2
ADAM12	Integrin $\alpha$ 3 $\beta$ 1	TACE/ADAM17	ADAM19	MMP-12		MMP-7
ADAM15	Integrin $\alpha 5$	TIMP-1	EMMPRIN	TIMP-1		MMP-8
ADAM19	Integrin $\alpha L$	TIMP-2	Lipocalin-2/NGAL	TIMP-2		MMP-9
ADAM33	Integrin $\alpha$ M $\beta$ 2	TIMP-3	MMP-2			MMP-12
ADAMTS1	Integrin $\alpha V\beta 6$	TIMP-4				MMP-13
ADAMTS4	Integrin $\alpha V\beta 8$	VEGF				
ADAMTS5	Lipocalin-1					
ADAMTS13						

Recombinant human MMP-10 cross-reacts approximately 10.6% in this assay

#### **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.