

## Anti-Human/Mouse MMP-2 Antibody [PSH22-05] - BSA and Azide free (Detector)

# HA725380



<b>Product Type:</b>	Recombinant Rabbit monoclonal IgG, primary antibodies
<b>Species reactivity:</b>	Human, Mouse
<b>Applications:</b>	ELISA(Det)
<b>Clone number:</b>	PSH22-05

**Description:** Proteins of the matrix metalloproteinase (MMP) family are involved in the breakdown of extracellular matrix (ECM) in normal physiological processes, such as embryonic development, reproduction, and tissue remodeling, as well as in disease processes, such as arthritis and metastasis. Most MMP's are secreted as inactive proproteins which are activated when cleaved by extracellular proteinases. This gene encodes an enzyme which degrades type IV collagen, the major structural component of basement membranes. The enzyme plays a role in endometrial menstrual breakdown, regulation of vascularization and the inflammatory response. Activation of MMP-2 requires proteolytic processing. A complex of membrane type 1 MMP (MT1-MMP/MMP14) and tissue inhibitor of metalloproteinase 2 recruits pro-MMP 2 from the extracellular milieu to the cell surface. Activation then requires an active molecule of MT1-MMP and auto catalytic cleavage. Clustering of integrin chains promotes activation of MMP-2. Another factor that will support the activation of MMP-2 is cell-cell clustering. A wild-type activated leukocyte cell adhesion molecule (ALCAM) is also required to activate MMP-2.

**Immunogen:** Recombinant protein within Human MMP-2 aa 28-267 (HA210660).

**Positive control:** Recombinant Human MMP-2 protein (HA210660).

**Subcellular location:** Secreted, extracellular space, extracellular matrix Membrane, Nucleus; Cytoplasm, Mitochondrion.

**Database links:** SwissProt: P08253 Human | P33434 Mouse

**Recommended Dilutions:**

**ELISA(Det)** Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Rabbit monoclonal [PSH22-04] to Human/Mouse MMP-2 antibody (Capture) (HA725379) and Recombinant Human MMP-2 protein (HA210660) as the standard. The reference range value is 78.1-20,000 pg/mL.

**Storage Buffer:** 1\*PBS (pH7.4).

**Storage Instruction:** Store at +4°C after thawing. Aliquot store at -20°C. Avoid repeated freeze / thaw cycles.

**Purity:** Protein A affinity purified.

Hangzhou Huaan Biotechnology Co., Ltd.

Orders:0086-571-88062880

Technical:0086-571-89986345

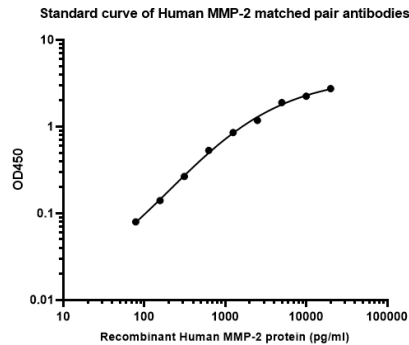
Service mail:support@huabio.cn

  
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**Fig1:** Sandwich ELISA analysis of Human MMP-2 matched pair antibodies

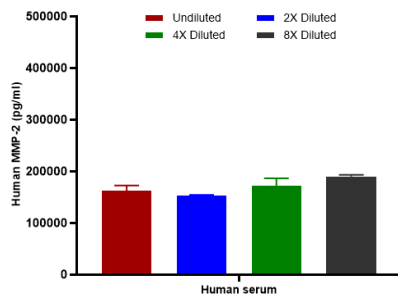
Capture: HA725379, Human/Mouse MMP-2 Rabbit mAb [PSH22-04]

Detector: HA725380, Human/Mouse MMP-2 Rabbit mAb [PSH22-05]



Elisa assay was performed by coating wells of a 96-well plate with 50  $\mu$ l per well of capture antibody (HA725379) diluted in carbonate/bicarbonate buffer, at a concentration of 2  $\mu$ g/ml overnight at 4 $^{\circ}$ C. Wells of the plate were washed, blocked with 150  $\mu$ l 0.05% tween-20 1% BSA blocking buffer, and incubated with serial diluted Recombinant Human MMP-2 protein (HA210660) starting from 20,000 pg/ml to 0 pg/ml and detect antibody (HA725380, Biotin, 0.2  $\mu$ g/ml) for 1 hour at 30 $^{\circ}$ C with shaking. Then the plate was washed and incubated with 50  $\mu$ l per well of SA-HRP for 0.5 hour at 30 $^{\circ}$ C with shaking. Detection was performed using an Ultra TMB Substrate for 10 minutes at room temperature in the dark. The reaction was stopped with sulfuric acid and absorbances were read on a spectrophotometer at 450 nm.

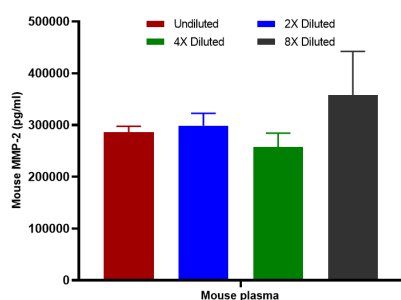
**Fig2:** Interpolated concentrations of native MMP-2 in human serum samples.



Capture: HA725379, Human/Mouse MMP-2 Rabbit mAb [PSH22-04]

Detector: HA725380, Human/Mouse MMP-2 Rabbit mAb [PSH22-05]

The concentrations of MMP-2 were measured in duplicates, interpolated from the MMP-2 standard curve and corrected for sample dilution. Undiluted samples are human serum 1%. The interpolated dilution factor corrected values are plotted (mean  $\pm$  SD, n=2). The mean MMP-2 concentration was determined to be 169,094 pg/ml in human serum.



**Fig3:** Interpolated concentrations of native MMP-2 in mouse plasma samples.

Capture: HA725379, Human/Mouse MMP-2 Rabbit mAb [PSH22-04]

Detector: HA725380, Human/Mouse MMP-2 Rabbit mAb [PSH22-05]

The concentrations of MMP-2 were measured in duplicates, interpolated from the MMP-2 standard curve and corrected for sample dilution. Undiluted samples are mouse plasma 1%. The interpolated dilution factor corrected values are plotted (mean  $\pm$  SD, n=2). The mean MMP-2 concentration was determined to be 300,110 pg/ml in mouse plasma.

**Note:** All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

### Background References

1. Yan Y et al. Association of MMP2 and MMP9 gene polymorphisms with the recurrent spontaneous abortion: A meta-analysis. *Gene*. 2021 Jan
2. Kalev-Altman R et al. Mmp2 Deficiency Leads to Defective Parturition and High Dystocia Rates in Mice. *Int J Mol Sci*. 2023 Nov

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