Anti-MMP-7 Antibody [PSH08-91] - BSA and Azide free

HA751256

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	WB, IF-Cell, FC, IHC-P
Molecular Wt:	Predicted band size: 30 kDa
Clone number:	PSH08-91

Description: Matrilysin also known as matrix metalloproteinase-7 (MMP-7), pump-1 protease (PUMP-1), or uterine metalloproteinase is an enzyme in humans that is encoded by the MMP7 gene. The enzyme (EC 3.4.24.23) has also been known as matrin, putative (or punctuated) metalloproteinase-1, matrix metalloproteinase pump 1, PUMP-1 proteinase, PUMP, metalloproteinase pump-1, putative metalloproteinase, MMP). Human MMP-7 has a molecular weight around 30 kDa. Matrilysin was discovered by Sellers and Woessner in the uterus of the rat in 1988. The complementary DNA (cDNA) of human MMP7 was isolated in 1988 by Muller et al. MMP7 is a member of the matrix metalloproteinase (MMP) family consisting of structural-related zinc-dependent endopeptidases. The primary role of cleaved/activated MMP7 is to break down extracellular matrix by degrading macromolecules including casein, type I, II, IV, and V gelatins, fibronectin, and proteoglycan.

Immunogen: Recombinant protein within human MMP-7 aa 1-267.

Positive control: A549 cell lysate, HT-29 cell lysate, HT-29, human liver tissue, human endometrial cancer tissue.

Subcellular location: Secreted, extracellular space, extracellular matrix.

Database links: SwissProt: P09237 Human

Recommended Dilutions:

WB	1:2,000
IF-Cell	1:50
FC	1:1,000
IHC-P	1:50-1:500

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

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

Purity: Protein A affinity purified.

Images

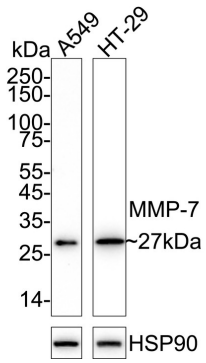

Fig1: Western blot analysis of MMP-7 on different lysates with Rabbit anti-MMP-7 antibody (HA751256) at 1/2,000 dilution.

Lane 1: A549 cell lysate
Lane 2: HT-29 cell lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 30 kDa
Observed band size: 27 kDa

Exposure time: Lane 1: 3 minutes; Lane 2: 6 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA751256) at 1/2,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

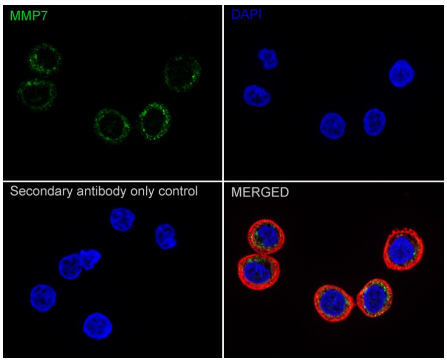

Fig2: Immunocytochemistry analysis of HT-29 cells labeling MMP-7 with Rabbit anti-MMP-7 antibody (HA751256) at 1/50 dilution.

Cells were fixed in 4% paraformaldehyde for 15 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-MMP-7 antibody (HA751256) at 1/50 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (HA601187, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

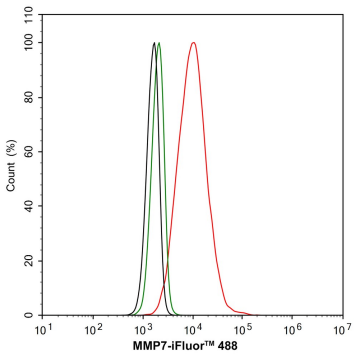

Fig3: Flow cytometric analysis of HT-29 cells labeling MMP-7.

Cells were fixed and permeabilized. Then stained with the primary antibody (HA751256, 1/1,000) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4℃ for an hour, the cells were stained with a iFluor™ 488 conjugate-Goat anti-Rabbit IgG Secondary antibody (HA1121) at 1/1,000 dilution for 30 minutes at +4℃. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

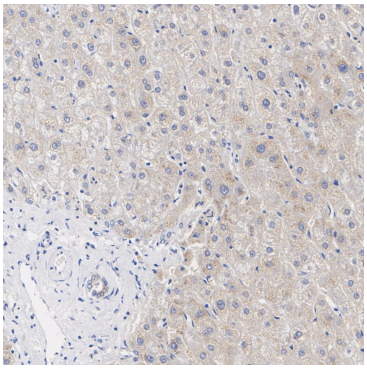

Fig4: Immunohistochemical analysis of paraffin-embedded human liver tissue with Rabbit anti-MMP-7 antibody (HA751256) at 1/50 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA751256) at 1/50 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

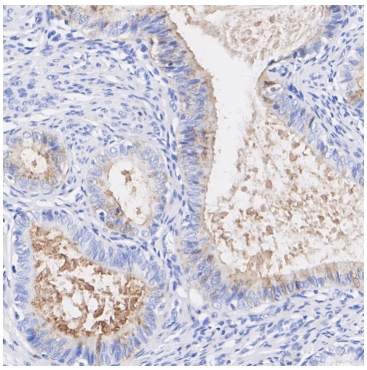

Fig5: Immunohistochemical analysis of paraffin-embedded human endometrial cancer tissue with Rabbit anti-MMP-7 antibody (HA751256) at 1/500 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA751256) at 1/500 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

Background References

1. Ou S et al. Fusobacterium nucleatum upregulates MMP7 to promote metastasis-related characteristics of colorectal cancer cell via activating MAPK(JNK)-AP1 axis. J Transl Med. 2023 Oct
2. Avello A et al. Urine MMP7 as a kidney injury biomarker. Clin Kidney J. 2023 Sep