Anti-MMP-7 Antibody

HA500305

Product Type:	Rabbit polyclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	WB, IF-Cell, IHC-P, FC
Molecular Wt:	42 kDa

Description: MMP7 was initially characterized by Woessner et al. It digests components of the extracellular matrix, cleaves the α 2 (I) chain of gelatin more rapidly, and digests the B chain of insulin at Ala14-Leu and Tyr16-Leu, and has no action on collagen types I, II, IV, V. The optimal pH of MMP7 is at 7 and the pI is at 5.9. MMP4 is inhibited by α 2-macroglobulin and TIMP. The inhibition of MMP7 activity commonly relies on metal-chelating agents including EDTA and 1,10-phenantroline, especially zinc chelation. Therefore, the selectivity of MMP7 inhibition is challenging since almost all members of MMPs family contain catalytic domains with zinc binding sites. TIMP-1 and 2 noncovalently bound to active MMP7 at the catalytic site inhibiting MMP7 activity. The activated MMP7 can also cleave the propeptides of proMMP2 and proMMP9 to facilitate tumor invasion.

Immunogen: Synthetic peptide within human MMP7 aa 220-267 / 267.

Positive control: A549 cell lysates, HT-29 cell lysate, A431 cell lysate, A549, human uterus tissue, HT-29.

Subcellular location: Extracellular matrix, Secreted.

Database links: SwissProt: P09237 Human

Recommended Dilutions:

WB	1:500-1:2,000
IF-Cell	1:50-1:200
IF-Tissue	1:50-1:200
IHC-P	1:50-1:100
FC	1:500-1:1.000

Storage Buffer: 1*TBS (pH7.4), 0.2% BSA, 50% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Immunogen affinity purified.

Images

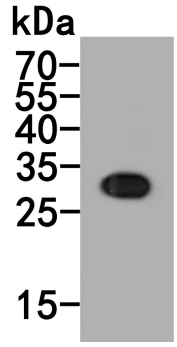

Fig1: Western blot analysis of MMP7 on A549 cell lysate. Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA500305, 1/1,000) was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:200,000 dilution was used for 1 hour at room temperature.
Positive control:
Lane: A549 cell lysate

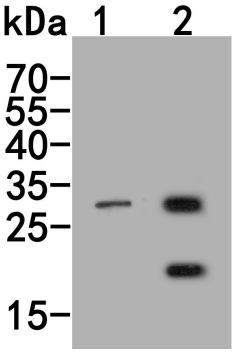

Fig2: Western blot analysis of MMP7 on different lysates. Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA500305, 1/1,000) was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:200,000 dilution was used for 1 hour at room temperature.
Positive control:
Lane 1: HT-29 cell lysate
Lane 2: A431 cell lysate

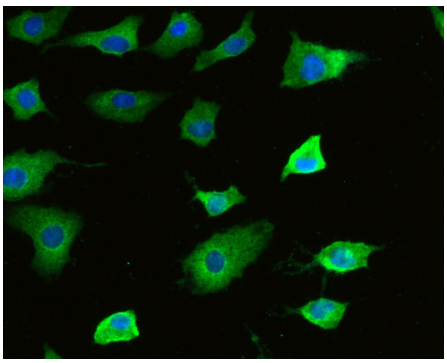

Fig3: ICC staining of MMP-7 in A549 cells (green). Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature and blocked with 10% negative goat serum for 15 minutes at room temperature. Cells were probed with the primary antibody (HA500305, 1/50) for 1 hour at room temperature, washed with PBS. Alexa Fluor®488 conjugate-Goat anti-Rabbit IgG was used as the secondary antibody at 1/1,000 dilution. The nuclear counter stain is DAPI (blue).

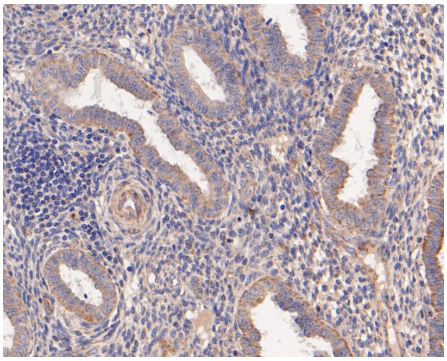

Fig4: Immunohistochemical analysis of paraffin-embedded human uterus tissue using anti-MMP7 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA500305, 1/100) for 30 minutes 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.

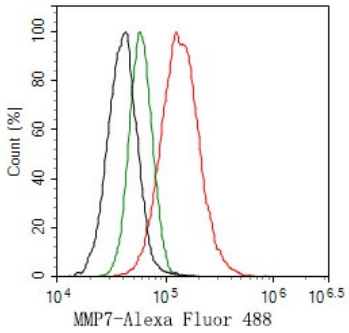

Fig5: Flow cytometric analysis of MMP-7 was done on A549 cells. The cells were fixed, permeabilized and stained with the primary antibody (HA500305, 1ug/ml) (red) compared with Rabbit IgG, monoclonal - Isotype Control (green). After incubation of the primary antibody at +4℃ for 1 hour, the cells were stained with a Alexa Fluor®488 conjugate-Goat anti-Rabbit IgG Secondary antibody at 1/1,000 dilution for 30 minutes at +4℃ (dark incubation).Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

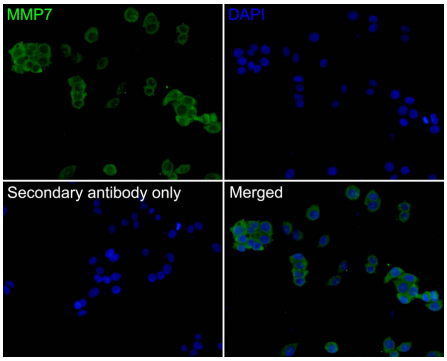

Fig6: ICC staining of MMP-7 in HT-29 cells (green). Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature and blocked with 10% negative goat serum for 15 minutes at room temperature. Cells were probed with the primary antibody (HA500305, 1/50) for 1 hour at room temperature, washed with PBS. Alexa Fluor®488 conjugate-Goat anti-Rabbit IgG was used as the secondary antibody at 1/1,000 dilution. The nuclear counter stain is DAPI (blue).

Background References

1. Quantin B. et. al. Pump-1 cDNA codes for a protein with characteristics similar to those of classical collagenase family members. Biochemistry 28:5327-5334(1989).