

Anti-MMP-3 Antibody

ER1706-77



Product Type:	Rabbit polyclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell, IHC-P, IF-Tissue
Molecular Wt:	Predicted band size: 54 kDa

Description: Stromelysin-1 also known as matrix metalloproteinase-3 (MMP-3) is an enzyme that in humans is encoded by the MMP3 gene. The MMP3 gene is part of a cluster of MMP genes which localize to chromosome 11q22.3. MMP-3 has an estimated molecular weight of 54 kDa. Proteins of the matrix metalloproteinase (MMP) family are involved in the breakdown of extracellular matrix proteins and during tissue remodeling in normal physiological processes, such as embryonic development and reproduction, as well as in disease processes, such as arthritis, and tumour metastasis. Most MMPs are secreted as inactive proproteins which are activated when cleaved by extracellular proteinases. The MMP-3 enzyme degrades collagen types II, III, IV, IX, and X, proteoglycans, fibronectin, laminin, and elastin. In addition, MMP-3 can also activate other MMPs such as MMP-1, MMP-7, and MMP-9, rendering MMP-3 crucial in connective tissue remodeling. The enzyme is also thought to be involved in wound repair, progression of atherosclerosis, and tumor initiation. In addition to classical roles for MMP3 in extracellular space, MMP3 can enter in cellular nuclei and control transcription.

Immunogen: Recombinant protein within C-terminal human MMP-3.

Positive control: U-87 MG cell lysate, HeLa cell lysate, C2C12, PC-12, human liver tissue, mouse liver tissue, rat liver tissue.

Subcellular location: Extracellular matrix. Secreted.

Database links: SwissProt: P08254 Human | P28862 Mouse | P03957 Rat

Recommended Dilutions:

WB	1:1,000
IF-Cell	1:50-1:200
IHC-P	1:1,000
IF-Tissue	1:500

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

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

Purity: Immunogen affinity purified.

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Images

Fig1: Western blot analysis of MMP-3 on different lysates with Rabbit anti-MMP-3 antibody (ER1706-77) at 1/1,000 dilution.

Lane 1: U-87 MG cell lysate

Lane 2: HeLa cell lysate

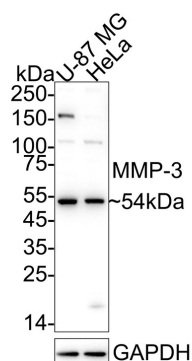
Lysates/proteins at 20 µg/Lane.

Predicted band size: 54 kDa

Observed band size: 54 kDa

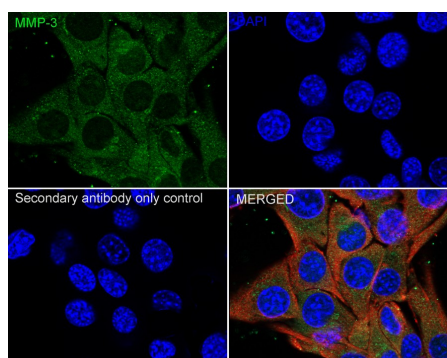
Exposure time: 59 seconds; ECL: K1801;

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 (ER1706-77) at 1/1,000 dilution was used in 5% NFDM/TBST at 4°C 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 C2C12 cells labeling MMP-3 with Rabbit anti-MMP-3 antibody (ER1706-77) at 1/100 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-3 antibody (ER1706-77) at 1/100 dilution in 1% BSA in PBST overnight at 4 °C. 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°C. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

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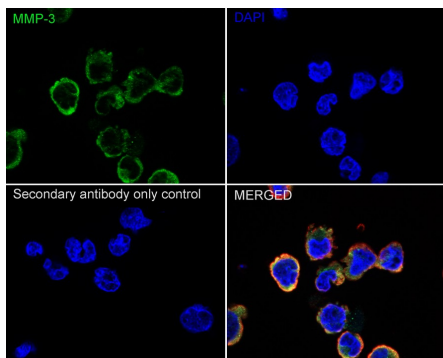
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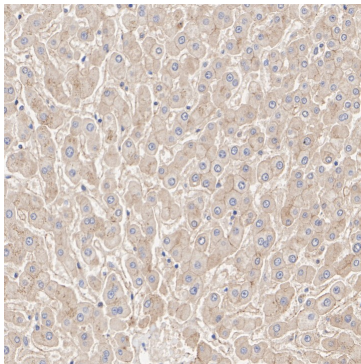
Fig3: Immunocytochemistry analysis of PC-12 cells labeling MMP-3 with Rabbit anti-MMP-3 antibody (ER1706-77) at 1/100 dilution.



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-3 antibody (ER1706-77) at 1/100 dilution in 1% BSA in PBST overnight at 4 °C. 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.

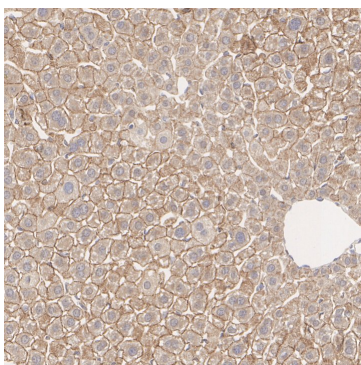
Beta tubulin (HA601187, red) was stained at 1/100 dilution overnight at +4 °C. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

Fig4: Immunohistochemical analysis of paraffin-embedded human liver tissue with Rabbit anti-MMP-3 antibody (ER1706-77) at 1/1,000 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 ddH₂O and PBS, and then probed with the primary antibody (ER1706-77) at 1/1,000 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 mouse liver tissue with Rabbit anti-MMP-3 antibody (ER1706-77) at 1/1,000 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 ddH₂O and PBS, and then probed with the primary antibody (ER1706-77) at 1/1,000 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.

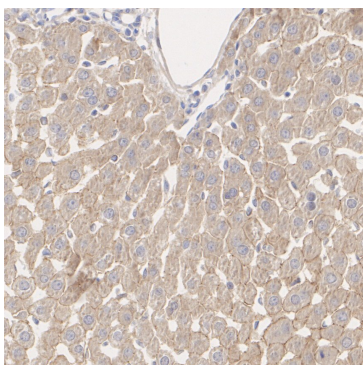


Fig6: Immunohistochemical analysis of paraffin-embedded rat liver tissue with Rabbit anti-MMP-3 antibody (ER1706-77) at 1/1,000 dilution.

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 ddH₂O and PBS, and then probed with the primary antibody (ER1706-77) at 1/1,000 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.

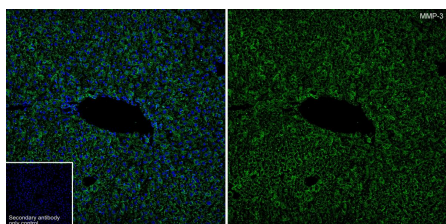


Fig7: Application: IF-Tissue

Species: Mouse

Site: liver

Sample: Paraffin-embedded section

Antibody concentration: 1/500

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

Background References

1. Seehawer M et al. Loss of Kmt2c or Kmt2d drives brain metastasis via KDM6A-dependent upregulation of MMP3. *Nat Cell Biol.* 2024 Jul
2. Jiang J et al. MMP3 at the crossroads: Linking molecular pathways to disease diagnosis and therapy. *Pharmacol Res.* 2025 Jun

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