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Anti-MMP9 Antibody Picoband®

Catalog Number: PB9668

About MMP9

Matrix metallopeptidase 9 (MMP-9), also known as 92 kDa type IV collagenase, 92 kDa gelatinase or gelatinase B (GELB), is an enzyme that in humans is encoded by the MMP9 gene. Proteins of the matrix metalloproteinase (MMP) family are involved in the breakdown of extracellular matrix in normal physiological processes. Most MMPs are secreted as inactive proproteins which are activated when cleaved by extracellular proteinases. The enzyme encoded by this gene degrades type IV and V collagens. Studies in rhesus monkeys suggest that the enzyme is involved in IL-8-induced mobilization of hematopoietic progenitor cells from bone marrow, and murine studies suggest a role in tumor-associated tissue remodeling.

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Overview

Product Name	Anti-MMP9 Antibody Picoband®
Reactive Species	Human
Description	Boster Bio Anti-MMP9 Antibody Picoband® catalog # PB9668. Tested in ELISA, IHC, WB applications. This antibody reacts with Human. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	ELISA, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains antibody formulated with stabilizing components, 0.9 mg NaCl, 0.2 mg Na2HPO4, and 0.05 mg NaN3. *This antibody is supplied in a stabilized formulation. Compatibility with conjugation reactions depends on the chemistry of the conjugation method used. For conjugation methods that are not compatible with the stabilizing components present in this formulation, a carrier-free antibody format is required.
Storage Instructions	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P14780

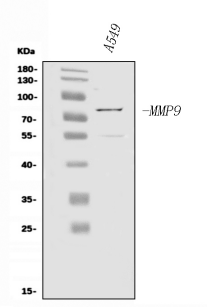
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Technical Details

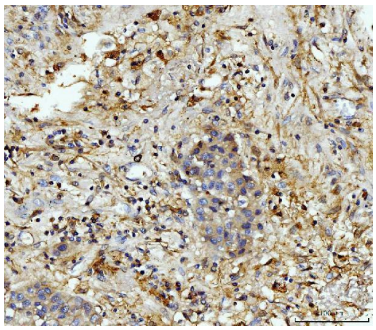
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human MMP-9, different from the related mouse sequence by fourteen amino acids, and from the related rat sequence by sixteen amino acids.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.1-0.5ug/ml, Human Immunohistochemistry(Paraffin-embedded Section), 2-5 ug/ml, Human ELISA, 0.1-0.5ug/ml, -,

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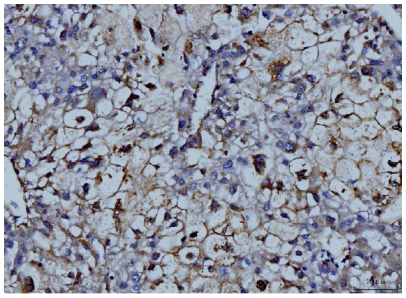
Anti-MMP9 Antibody Picoband® (PB9668) Images



Western blot analysis of MMP9 using anti-MMP9 antibody (PB9668). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human A549 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-MMP9 antigen affinity purified polyclonal antibody (Catalog # PB9668) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for MMP9 at approximately 79 kDa. The expected band size for MMP9 is at 79 kDa.



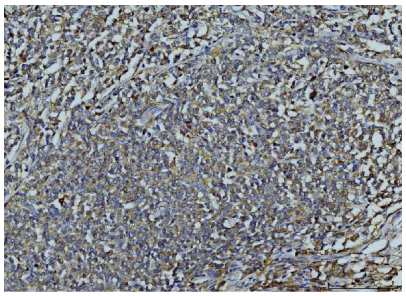
IHC analysis of MMP9 using anti-MMP9 antibody (PB9668). MMP9 was detected in a paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-MMP9 Antibody (PB9668) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.



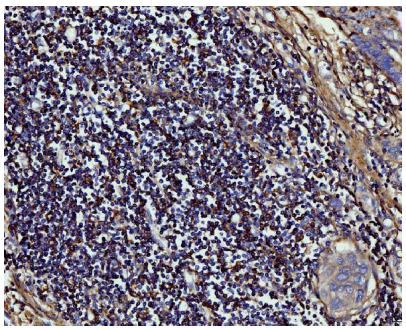
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IHC analysis of MMP9 using anti-MMP9 antibody (PB9668). MMP9 was detected in a paraffin-embedded section of human lymphadenoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-MMP9 Antibody (PB9668) overnight at 4°C.

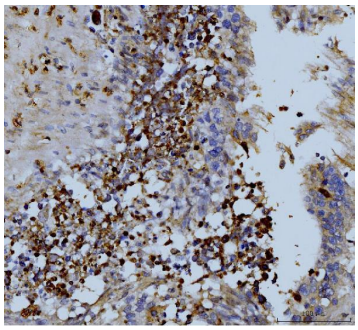
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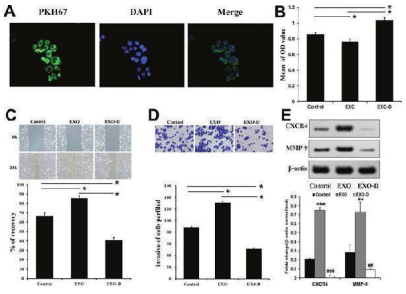
Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.



IHC analysis of MMP9 using anti-MMP9 antibody (PB9668). MMP9 was detected in a paraffin-embedded section of human lymph nodes of gastric adenocarcinoma rectal cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-MMP9 Antibody (PB9668) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.



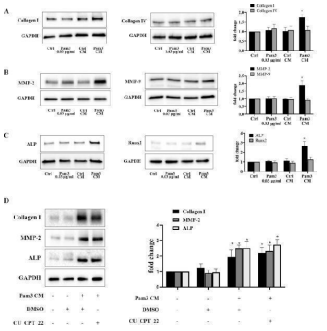
IHC analysis of MMP9 using anti-MMP9 antibody (PB9668). MMP9 was detected in a paraffin-embedded section of human colonic adenocarcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-MMP9 Antibody (PB9668) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.



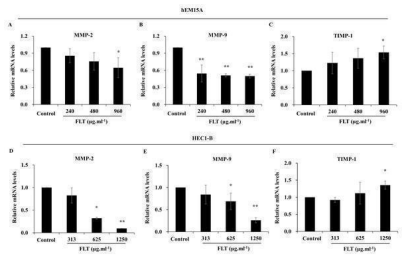
Panc02-H7-derived exosomes promote metastatis-related characteristics in vitro . Panc02 cells tookup PKH67-labeled Panc02-H7EXOs. Numerous green fluorescently-labeled exosomes were observed inside cells after 5 h (400× magnification). (A) The MTT cell adhesion assay indicated that Panc02-H7 EXOs decrease Panc02 cell adhesion. (B) Wound-healing assays indicated that Panc02-H7 EXOs enhanced Panc02 cell migration (200×magnification). (C) Transwell chamber invasion assays showed that Panc02-H7 EXOs increased Panc02 cell invasion (200×magnification). (D) Western blotting indicated that Panc02-H7 EXOs increased Panc02 cell migration and invasion via CXCR4 and MMP-9 signaling. (E) n=3/group.*P<0.05,**P<0.01, ***P<0.001 compared to control; #P<0.05, ##P<0.01, ###P<0.001 compared to EXO-D.Index in PubMed under a CC BY license. PMID: 28969005

Pam3 CM up-regulates fibrogenic and osteogenic mediators in AVICs independent of TLR2. A–C AVICs were exposed to

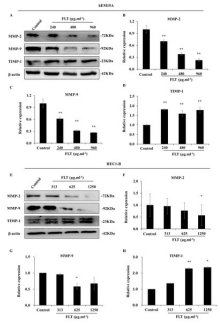
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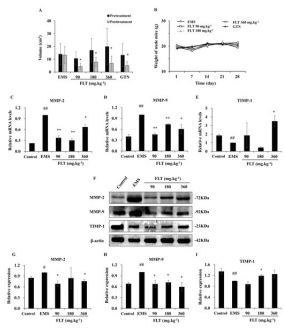
Pam3 (0.03 ug/ml), control CM or Pam3 CM for 48 h. Levels of collagen I, collagen IV, MMP-2, MMP-9, ALP and RUNX2 were determined by immunoblotting. Representative immunoblots and densitometric data show that Pam3 CM selectively up-regulated collagen I, MMP-2 and ALP in AVICs among the fibrogenic and osteogenic factors examined while control CM or a low concentration of Pam3 had no effect. D AVICs were pretreated with TLR2 inhibitor CU CPT 22 (10 μM) or DMSO for 1 h and then exposed to Pam3 CM treatment for 48 h. Inhibition of TLR2 in AVICs did not alter the effect of Pam3 CM on the upregulation of collagen I, MMP-2 and ALP. Data are presented as mean ± SEM. n = 5 cell isolates from distinct donor valves in each group. *P < 0.05 vs. untreated control Index in PubMed under a CC BY license. PMID: 35062861



Gene expression of MMP/TIMP signaling adjusted by FLT for 24h. The mRNA levels of MMP-2, MMP-9, and TIMP-1 were detected by qPCR in hEM15A (A–C) and HEC1-B (D–F) cells. * P < 0.05 to control group, ** P < 0.01 to control group. Columns, mean (n = 3). Bars, SD. FLT, ferulic acid, ligustrazine and tetrahydropalmatine. Download full-size image DOI:Index in PubMed under a CC BY license. PMID: 34249506



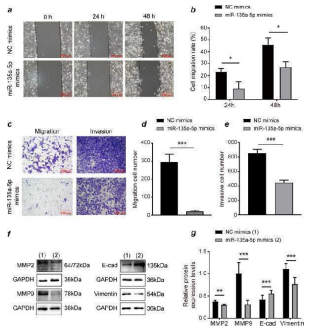
Modification of MMP/TIMP signaling protein treating with FLT for 24h. Protein levels of MMP-2, MMP-9, and TIMP-1 were detected by western blot in hEM15A (A–D) and HEC1-B (E–H) cells. The ratio of MMP-2, MMP-9, and TIMP-1 with beta-actin were shown. * P < 0.05 to control group, ** P < 0.01 to control group. Columns, mean (n = 3). Bars, SD. FLT, ferulic acid, ligustrazine and tetrahydropalmatine. Download full-size image DOI:Index in PubMed under a CC BY license. PMID: 34249506



Regulation of FLT on xenograft EMS. (A) Ectopic volume was detected by vernier caliper in xenograft EMS model. GTN was performed as positive control. (B) Weight of nude mice was measured every 7 days during 28 days' treatment. * P < 0.05 to pretreatment. Columns, mean (n = 6). (C–E) Ectopic endometrium of EMS and FLT groups were collected for RNA isolation. Eutopic endometrium of C3H mice without transplantation were supplied as the control group. mRNA levels of MMP-2, MMP-9, and TIMP-1 were detected by qPCR in different groups. (F–I) Protein levels of MMP-2, MMP-9, and TIMP-1 were measured by western blotting, and the ratio of MMP-2, MMP-9, and TIMP-1 with beta-actin were shown. # P < 0.05 to control, ## P < 0.01 to control, * P < 0.05 to EMS, ** P < 0.01 to EMS. Columns, mean (n = 3). Bars, SD. EMS, endometriosis; FLT, ferulic acid, ligustrazine and tetrahydropalmatine; GTN, gestrinone. Download full-size image DOI:Index in PubMed under a CC BY license. PMID: 34249506

miR-135a-5p mimics suppress migratory and invasive

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activity in HTR-8/SVneo cells. (a - b) Overexpressing miR-135a-5p inhibited HTR-8/SVneo cell migration in a wound healing assay. (c - e) Overexpressing miR-135a-5p suppressed HTR-8/SVneo cell migration and invasion in Transwell assessments. (f - g) Western blotting revealed E-cad upregulation and the downregulation of MMP2, MMP9, and Vimentin, with GAPDH as a reference control. Data are means ± SD from at least three experiments. E-cad: E-cadherin. * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$ Index in PubMed under a CC BY license. PMID: 35610725

72 Publications Citing This Product

1. PubMed ID: 32777528, Li CH,Liu M,Pan LH,Sun Y.ANP reduced Hedgehog signaling-mediated activation of matrix metalloproteinase-9 in gastric cancer cell line MGC-803.Gene.2020 Dec 15;762:145044.doi:10.1016/j.gene.2020.145044.Epub 2020 Aug 7.PMID:32777528.

2. PubMed ID: 25590646, Wang B, Liang S, Wang Y, Zhu Xq, Gong W, Zhang Hq, Li Y, Xia Cm. Plos Negl Trop Dis. 2015 Jan 15;9(1):E0003434. Doi: 10.1371/Journal.Pntd.0003434. Ecollection 2015. Th17 Down-Regulation Is Involved In Reduced Progression Of Schistosomiasis Fibrosi...

3. PubMed ID: 25383084, Ma X, Ma X, Ma Z, Sun Z, Yu W, Wang J, Li F, Ding J. Evid Based Complement Alternat Med. 2014;2014:710870. Doi: 10.1155/2014/710870. Epub 2014 Oct 15. The Effects Of Uygur Herb Hyssopus Officinalis L. On The Process Of Airway Remodeling In Asthmat...

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