BOSTER BIOLOGICAL TECHNOLOGY
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Anti-MMP13 Antibody Picoband®

Catalog Number: A00420-2

About Mmp13

Collagenase 3 is an enzyme that in humans is encoded by the MMP13 gene. This gene encodes a member of the peptidase M10 family of matrix metalloproteinases (MMPs). Proteins in this family are involved in the breakdown of extracellular matrix in normal physiological processes, such as embryonic development, reproduction, and tissue remodeling, as well as in disease processes, such as arthritis and metastasis. The encoded preproprotein is proteolytically processed to generate the mature protease. This protease cleaves type II collagen more efficiently than types I and III. It may be involved in articular cartilage turnover and cartilage pathophysiology associated with osteoarthritis. Mutations in this gene are associated with metaphyseal anadysplasia. This gene is part of a cluster of MMP genes on chromosome 11.

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Overview

Product Name	Anti-MMP13 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-MMP13 Antibody Picoband® catalog # A00420-2. Tested in ELISA, IHC, WB applications. This antibody reacts with Human, Mouse, Rat. 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 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
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	P23097

Technical Details

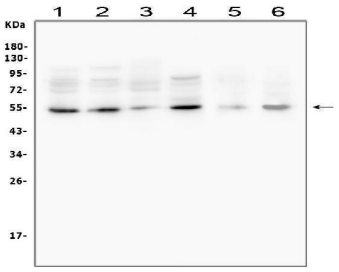
Immunogen	E. coli-derived rat MMP13 recombinant protein (Position: Y99-H335).

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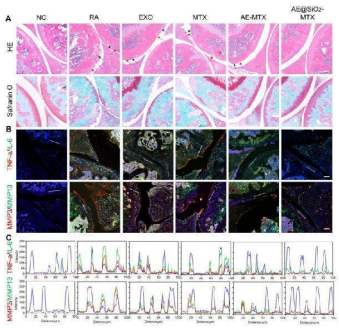
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Suggested Dilutions	Western blot, 0.1-0.5ug/ml Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml ELISA, 0.1-0.5ug/ml

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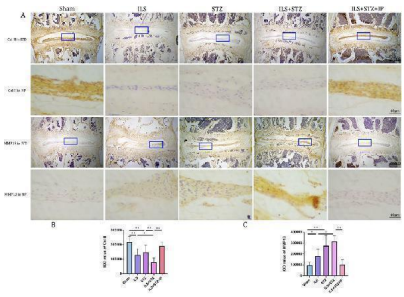
Anti-MMP13 Antibody Picoband® (A00420-2) Images



Western blot analysis of MMP13 using anti-MMP13 antibody (A00420-2). 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 50ug of sample under reducing conditions. Lane 1: human A549 whole cell lysates Lane 2: human PC-3 whole cell lysates Lane 3: human U2OS whole cell lysates Lane 4: human HEK293 whole cell lysates Lane 5: rat testicular tissue lysates Lane 6: mouse testicular tissue lysates After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA 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-MMP13 antigen affinity purified polyclonal antibody (Catalog # A00420-2) 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 1:10000 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 MMP13 at approximately 54KD. The expected band size for MMP13 is at 54KD.



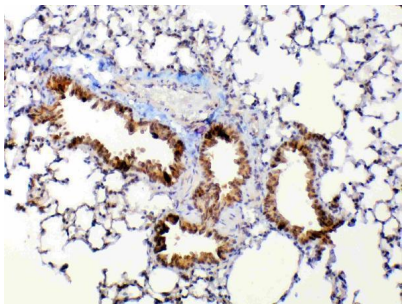
Therapeutic effectiveness evaluated after administering AE@SiO 2 -MTX. (A) Knee joints were stained with HE and safranin O. Scale bar: 100 um. (B) TNF-alpha, IL-6, MMP3 and MMP13 and DAPI staining applied to knee sections. (C) Line profile analysis verified the co-expression and co-localization of TNF-alpha and IL-6, MMP3 and MMP13. Scale bar: 50 um.Index in PubMed under a CC BY license. PMID: 40521182



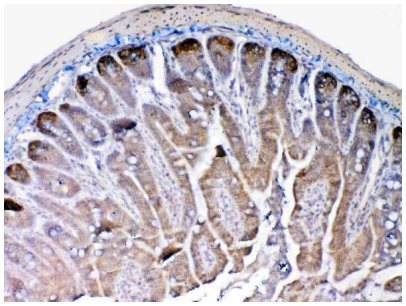
(A) Representative immunohistochemistry images of ColII and MMP-13 staining across all groups. (B, C) Quantitative analysis of ColII and MMP-13 protein expression levels in the NP. Immunohistological analysis showing that the protein expression level of ColII in the ILS+STZ+ IP group was higher and this of MMP-13 was lower than those in the ILS+STZ group. Note: *P < 0.05, **P < 0.01; scale bars = 200 um as indicated.Index in PubMed under a CC BY license. PMID: 40837020

IHC analysis of MMP13 using anti-MMP13 antibody (A00420-2). MMP13 was detected in paraffin-embedded section of mouse lung tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-MMP13 Antibody (A00420-2) overnight at 4°C. Biotinylated goat anti-rabbit

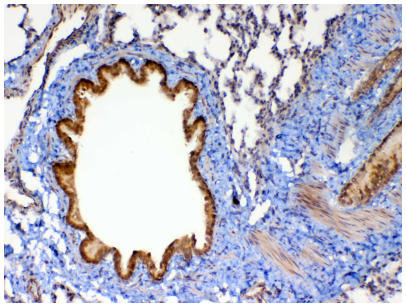
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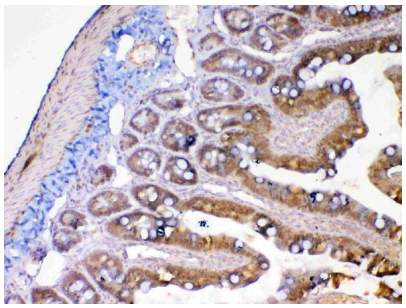
IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



IHC analysis of MMP13 using anti-MMP13 antibody (A00420-2). MMP13 was detected in paraffin-embedded section of mouse small intestine tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-MMP13 Antibody (A00420-2) 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 MMP13 using anti-MMP13 antibody (A00420-2). MMP13 was detected in paraffin-embedded section of rat lung tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-MMP13 Antibody (A00420-2) 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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16 Publications Citing This Product

1. PubMed ID: 10.1186/s12885-021-08566-1, Serum matrix metalloproteinase-13 as a diagnostic biomarker for cutaneous squamous cell carcinoma

2. PubMed ID: PMID:33594314, Allogeneic adipose-derived mesenchymal stem cells promote the expression of chondrocyte redifferentiation

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markers and retard the progression of knee osteoarthritis in rabbits

3. PubMed ID: 10.1007/s10238-011-0131-z, Enhancement of subchondral bone quality by alendronate administration for the reduction of cartilage degeneration in the early phase of experimental osteoarthritis

Visit bosterbio.com/anti-mmp13-picoband-trade-antibody-a00420-2-boster.html to see all 16 publications.

Anti-MMP13 Antibody

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