

Anti-Collagen I/COL1A1 Antibody

Catalog Number: PA2140-1

About COL1A1

Collagen, type I, alpha 1, also known as COL1A1, is a human gene that encodes the major component of type I collagen, the fibrillar collagen found in most connective tissues, including cartilage. This gene is mapped to 17q21.33. This gene encodes the [pro-alpha1 chains of type I collagen](#) whose triple helix comprises two alpha1 chains and one alpha2 chain. Type I is a fibril-forming collagen found in most connective tissues and is abundant in bone, cornea, dermis and tendon. Mutations in this gene are associated with osteogenesis imperfecta types I-IV, Ehlers-Danlos syndrome type VIIA, Ehlers-Danlos syndrome Classical type, Caffey Disease and idiopathic osteoporosis.

Overview

Product Name	Anti-Collagen I/COL1A1 Antibody
Reactive Species	Human, Mouse
Description	Boster Bio Anti-Collagen I/COL1A1 Antibody catalog # PA2140-1. Tested in IHC, WB applications. This antibody reacts with Human, Mouse
Application	IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na ₂ HPO ₄ .
Storage Instructions	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 freezing and thawing.
Host	Rabbit
Uniprot ID	P02452

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Collagen I, different from the related rat and mouse sequences by two amino acids.
Predicted Reactive Species	Hamster
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	<p>Dilute the sample so that the expected range of concentrations fall within the detection range of this kit.</p> <p>If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples.</p> <p>Some PubMed article(s) citing the expression level of this target are as follows:</p> <p>Boster Bio's internal QC testing used:</p> <p>Western blot, 0.25-0.5ug/ml, Human, Mouse</p> <p>Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Human, By Heat</p>

Anti-Collagen I/COL1A1 Antibody (PA2140-1) Images

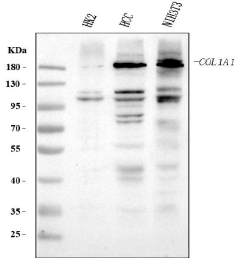


Figure 1. Western blot analysis of COL1A1 using anti-COL1A1 antibody (PA2140-1).

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 HK2 whole cell lysates,

Lane 2: human HCC tissue lysates,

Lane 3: mouse NIH/3T3 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-COL1A1 antigen affinity purified polyclonal antibody (Catalog # PA2140-1) 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 COL1A1 at approximately 180-200 kDa. The expected band size for COL1A1 is at 138 kDa.

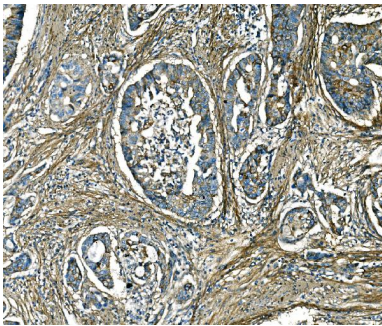


Figure 2. IHC analysis of COL1A1 using anti-COL1A1 antibody (PA2140-1).

COL1A1 was detected in a paraffin-embedded section of human colon 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-COL1A1 Antibody (PA2140-1) 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 Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

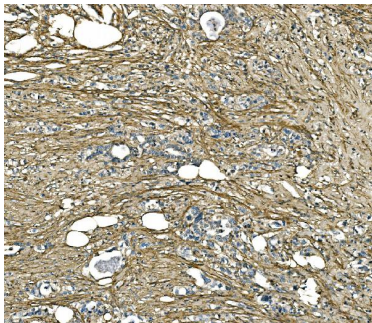
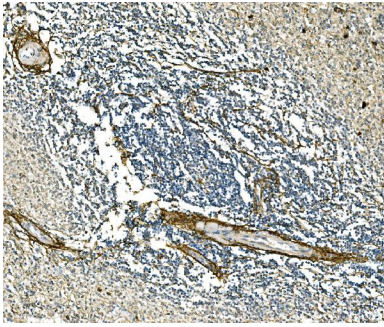


Figure 3. IHC analysis of COL1A1 using anti-COL1A1 antibody (PA2140-1).

COL1A1 was detected in a paraffin-embedded section of human gastric carcinoma 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-COL1A1 Antibody (PA2140-1) 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 Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

Figure 4. IHC analysis of COL1A1 using anti-COL1A1 antibody (PA2140-1).



COL1A1 was detected in a paraffin-embedded section of human spleen 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-COL1A1 Antibody (PA2140-1) 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 Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

56 Publications Citing This Product

1. PubMed ID: 10.1016/j.ejogrb.2020.01.027, Low expression of collagen type-1 in sacrouterine ligament as risk factor of stage III-IV uterine prolapse

2. PubMed ID: 31169440, Li X,Bu X,Yan F,Wang F,Wei D,Yuan J,Zheng W,Su J,Yuan J.Deletion of discoidin domain receptor 2 attenuates renal interstitial fibrosis in a murine unilateral ureteral obstruction model.Ren Fail.2019 Nov;41(1):481-488.doi:10.1080/0886022X.2019.1621759.PMID:31169440;PMCID:PMC6567249.

3. PubMed ID: 33992834, Feng Y,Dong H,Sun B,Hu Y,Yang Y,Jia Y,Jia L,Zhong X,Zhao R.METTL3/METTL14 transactivation and m6A-dependent TGF-beta1 translation in activated Kupffer cells.Cell Mol Gastroenterol Hepatol.2021 May 13:S2352-345X(21)00096-5.doi:10.1016/j.jcmgh.2021.05.007.Epub ahead of print.PMID:33992834.

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