

## Anti-Collagen III/COL3A1 Antibody Picoband™ (monoclonal, 9H9)

Catalog Number: M00788

### About COL3A1

COL3A1, also called EDS4A or Collagen alpha-1 (III), is a protein that in humans is encoded by the COL3A1 gene. It is mapped to 2q32.2. COL3A1 chain is a fibrillar-forming collagen comprising 3 alpha-1 (III) chains and is expressed in early embryos and throughout embryogenesis. In adult, COL3A1 is a major component of the extracellular matrix in a variety of internal organs and skin. COL3A1 is also a fibrous scleroprotein in bone, cartilage, dentin, tendon, bone marrow stroma and other connective tissue. It is involved in regulation of cortical development, and it is the major ligand of GPR56 in the developing brain. COL3A1 binding to GPR56 can inhibit neuronal migration and activate the RhoA pathway by coupling GPR56 to GNA13 and possibly GNA12.

### Overview

Product Name	Anti-Collagen III/COL3A1 Antibody Picoband™ (monoclonal, 9H9)
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Collagen III/COL3A1 Antibody Picoband™ (monoclonal, 9H9) catalog # M00788. Tested in IHC, WB applications. This antibody reacts with Human, Mouse, Rat.
Application	IHC, WB
Clonality	Monoclonal 9H9
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na <sub>2</sub> HPO <sub>4</sub> , 0.05mg NaN <sub>3</sub> .
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	Mouse
Uniprot ID	P02461

### Technical Details

Immunogen	E. coli-derived human Collagen III/COL3A1 recombinant protein (Position: D1222- E1455).
Predicted Reactive Species	Hepatitis Virus
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Mouse IgG (EK1001) for Western blot, and HRP Conjugated anti-Mouse IgG Super Vision Assay Kit (SV0001-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Mouse IgG2b
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, 0.1-0.5ug/ml</p> <p>Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml</p>

## Anti-Collagen III/COL3A1 Antibody Picoband™ (monoclonal, 9H9) (M00788) Images

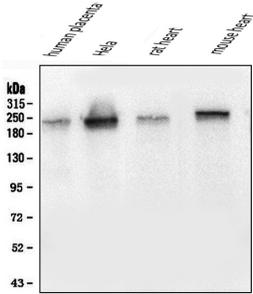


Figure 1. Western blot analysis of Collagen III/COL3A1 using anti-Collagen III/COL3A1 antibody (M00788).

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 placenta tissue lysates,

Lane 2: HeLa whole cell lysates,

Lane 3: rat heart tissue lysates,

Lane 4: mouse heart 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 mouse anti-Collagen III/COL3A1 antigen affinity purified monoclonal antibody (Catalog # M00788) 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-mouse 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 # EK1001) with Tanon 5200 system. A specific band was detected for Collagen III/COL3A1 at approximately 180-190KD. The expected band size for Collagen III/COL3A1 is at 180-190KD.

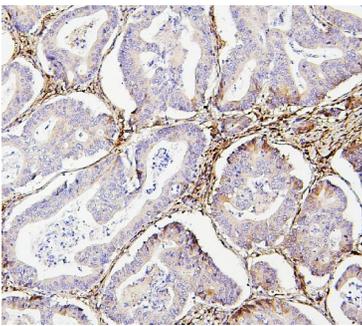


Figure 2. IHC analysis of Collagen III/COL3A1 using anti-Collagen III/COL3A1 antibody (M00788).

Collagen III/COL3A1 was detected in paraffin-embedded section of human intestinal cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml mouse anti-Collagen III/COL3A1 Antibody (M00788) overnight at 4°C. Biotinylated goat anti-mouse 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 # SA1021) with DAB as the chromogen.

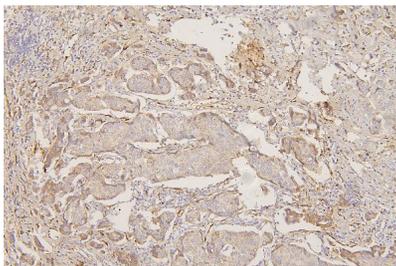


Figure 3. IHC analysis of Collagen III/COL3A1 using anti-Collagen III/COL3A1 antibody (M00788).

Collagen III/COL3A1 was detected in paraffin-embedded section of human mammary cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml mouse anti-Collagen III/COL3A1 Antibody (M00788) overnight at 4°C. Biotinylated goat anti-mouse 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 # SA1021) with DAB as the chromogen.

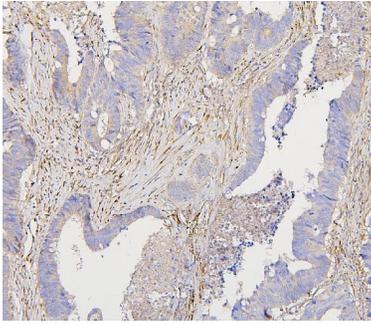


Figure 4. IHC analysis of Collagen III/COL3A1 using anti-Collagen III/COL3A1 antibody (M00788). Collagen III/COL3A1 was detected in paraffin-embedded section of human intestinal cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml mouse anti-Collagen III/COL3A1 Antibody (M00788) overnight at 4°C. Biotinylated goat anti-mouse 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 # SA1021) with DAB as the chromogen.

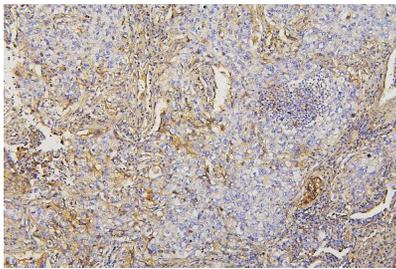


Figure 5. IHC analysis of Collagen III/COL3A1 using anti-Collagen III/COL3A1 antibody (M00788). Collagen III/COL3A1 was detected in paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml mouse anti-Collagen III/COL3A1 Antibody (M00788) overnight at 4°C. Biotinylated goat anti-mouse 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 # SA1021) with DAB as the chromogen.

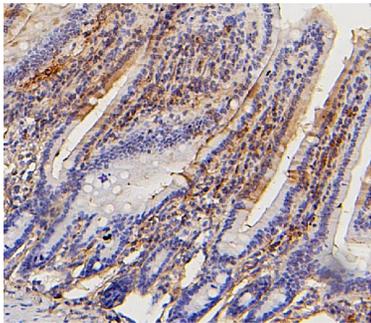


Figure 6. IHC analysis of Collagen III/COL3A1 using anti-Collagen III/COL3A1 antibody (M00788). Collagen III/COL3A1 was detected in paraffin-embedded section of mouse intestine tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml mouse anti-Collagen III/COL3A1 Antibody (M00788) overnight at 4°C. Biotinylated goat anti-mouse 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 # SA1021) with DAB as the chromogen.

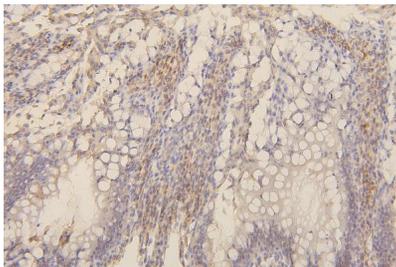


Figure 7. IHC analysis of Collagen III/COL3A1 using anti-Collagen III/COL3A1 antibody (M00788). Collagen III/COL3A1 was detected in paraffin-embedded section of rat intestine tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml mouse anti-Collagen III/COL3A1 Antibody (M00788) overnight at 4°C. Biotinylated goat anti-mouse 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 # SA1021) with DAB as the chromogen.

## 7 Publications Citing This Product

1. PubMed ID: 10.3892/mmr.2021.12482, Radiation-induced dysfunction of energy metabolism in the heart results in the fibrosis of cardiac tissues
2. PubMed ID: 10.1155/2020/8183713, ASK1 Enhances Angiotensin II-Induced Liver Fibrosis In Vitro by Mediating Endoplasmic Reticulum Stress-Dependent Exosomes
3. PubMed ID: -, Liuyi Yang, Meng Wang, Yuan Zhou, Jing Yang, Chaoyang Ye, Chen Wang, "Shen Shuai II Recipe Attenuates Renal Interstitial Fibrosis by Improving Hypoxia via the IL-1beta/c-Myc Pathway", Evidence-Based Complementary and Alternative Medicine, vol.2021, Article ID 5539584, 13 pages, 2021. <https://doi.org/10.1155/2021/5539584>

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