

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

Catalog # ABO14852

Product Information

Application	WB, IHC
Primary Accession	P02461
Host	Mouse
Isotype	Mouse IgG2b
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-Collagen III/COL3A1 Antibody Picoband™ (monoclonal, 9H9) . Tested in IHC, WB applications. This antibody reacts with Human, Mouse, Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500 µg/ml.

Additional Information

Gene ID	1281
Other Names	Collagen alpha-1(III) chain, COL3A1
Calculated MW	138564
Application Details	Western blot, 0.1-0.5 µg/ml Immunohistochemistry (Paraffin-embedded Section), 0.5-1 µg/ml
Subcellular Localization	Extracellular matrix.
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg NaN ₃ .
Clone Names	Clone: 9H9
Immunogen	E. coli-derived human Collagen III/COL3A1 recombinant protein (Position: D1222- E1455).
Cross Reactivity	No cross-reactivity with other proteins.
Storage	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.

Protein Information

Name	COL3A1
Function	Collagen type III occurs in most soft connective tissues along with type I collagen. Involved in regulation of cortical development. Is the major ligand of ADGRG1 in the developing brain and binding to ADGRG1 inhibits neuronal migration and activates the RhoA pathway by coupling ADGRG1 to GNA13 and possibly GNA12.
Cellular Location	Secreted, extracellular space, extracellular matrix {ECO:0000255 PROSITE-ProRule:PRU00793}

Background

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.

Images

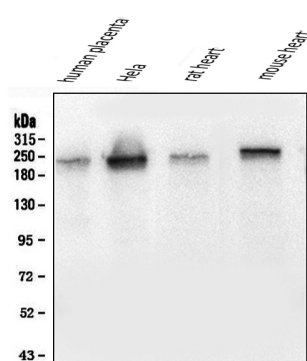
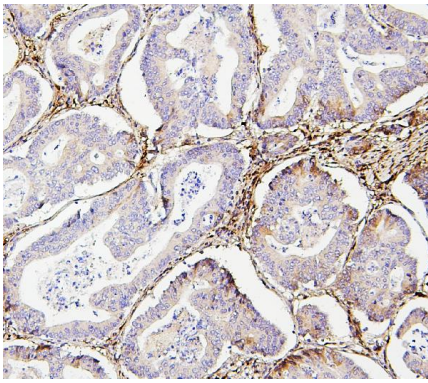


Figure 1. Western blot analysis of Collagen III/COL3A1 using anti-Collagen III/COL3A1 antibody (M00788). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. 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 µg/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 1 µg/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.

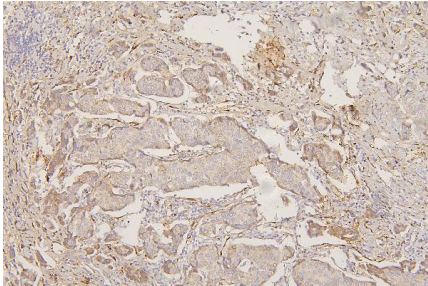


Figure 3. IHC analysis of Collagen III/COL3A1 using anti-Collagen III/COL3A1 antibody (M00788). Collagen III/COL3A1 was detected in paraffin-embedded section of human mammary cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/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.

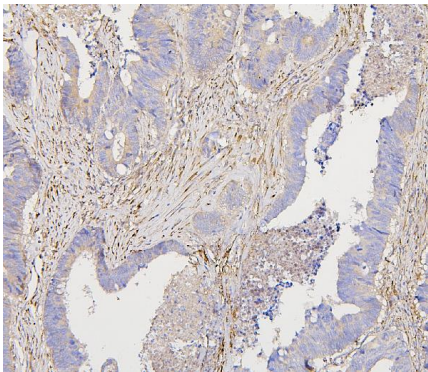


Figure 4. IHC analysis of Collagen III/COL3A1 using anti-Collagen III/COL3A1 antibody (M00788). Collagen III/COL3A1 was detected in paraffin-embedded section of human intestinal cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/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.

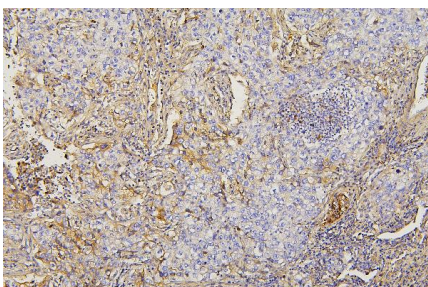
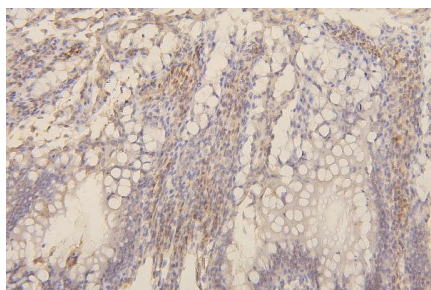


Figure 5. IHC analysis of Collagen III/COL3A1 using anti-Collagen III/COL3A1 antibody (M00788). Collagen III/COL3A1 was detected in paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/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 1 µg/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.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.