

Anti-Collagen IV COL4A1 Antibody Picoband™ (monoclonal, 3G3)

Catalog # ABO14330

Product Information

Application	WB, IHC, IF
Primary Accession	P02462
Host	Mouse
Isotype	Mouse IgG1
Reactivity	Human
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-Collagen IV COL4A1 Antibody Picoband™ (monoclonal, 3G3) . Tested in IF, IHC, WB applications. This antibody reacts with Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	1282
Other Names	Collagen alpha-1(IV) chain, Arresten, COL4A1 (HGNC:2202)
Calculated MW	160611
Application Details	Western blot, 0.1-0.5 µg/ml Immunohistochemistry (Paraffin-embedded Section), 0.5-1 µg/ml Immunofluorescence, 2 µg/ml
Subcellular Localization	Secreted, extracellular space, extracellular matrix, basement membrane
Tissue Specificity	Highly expressed in placenta.
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg Na ₃ N.
Clone Names Immunogen	Clone: 3G3 E.coli-derived human Collagen IV recombinant protein (Position: G1445-T1669). Human Collagen IV shares 97% amino acid (aa) sequence identity with mouse Collagen IV.
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	COL4A1 (HGNC:2202)
Function	Type IV collagen is the major structural component of glomerular basement membranes (GBM), forming a 'chicken-wire' meshwork together with laminins, proteoglycans and entactin/nidogen.
Cellular Location	Secreted, extracellular space, extracellular matrix, basement membrane {ECO:0000250 UniProtKB:P02463}
Tissue Location	Highly expressed in placenta.

Background

COL4A1, also known as ICH or Collagen alpha-1 (IV), is a protein that in humans is encoded by the COL4A1 gene. It is mapped to 13q34. This gene encodes the major type IV alpha collagen chain of basement membranes. Like the other members of the type IV collagen gene family, this gene is organized in a head-to-head conformation with another type IV collagen gene so that each gene pair shares a common promoter. COL4A1 binds to alpha-1/beta-1 integrin and inhibits migration, proliferation, and tube formation by endothelial cells. It is also a potential therapeutic candidate for targeting tumor angiogenesis.

Images

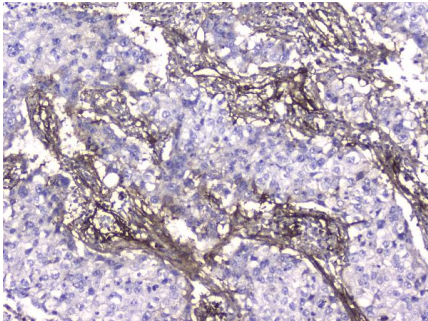


Figure 1. IHC analysis of Collagen IV using anti-Collagen IV antibody (M01411).

Collagen IV was detected in paraffin-embedded section of human lung cancer 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 2 µg/ml mouse anti-Collagen IV Antibody (M01411) 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.

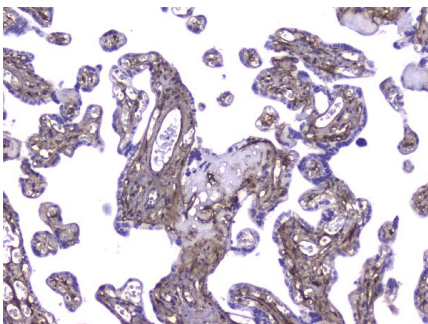


Figure 2. IHC analysis of Collagen IV using anti-Collagen IV antibody (M01411).

Collagen IV was detected in paraffin-embedded section of human placenta 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 2 µg/ml mouse anti-Collagen IV Antibody (M01411) 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.

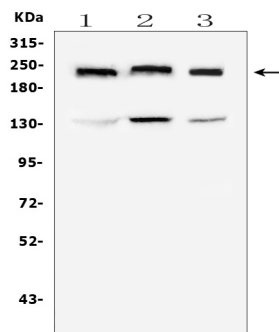


Figure 3. Western blot analysis of Collagen IV using anti-Collagen IV antibody (M01411).

Electrophoresis was performed on a 8% 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 HEK293T whole cell lysate,

Lane 2: human Hela whole cell lysate,

Lane 3: human A549 whole cell lysate.

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 IV antigen affinity purified monoclonal antibody (Catalog # M01411) 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 1:10000 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 IV at approximately 220KD. The expected band size for Collagen IV is at 161KD.

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