



Collagen IV Rabbit mAb

Catalog No	YP-rAb-18103
Isotype	IgG
Reactivity	Human
Applications	WB,IHC,IF,ELISA
Gene Name	COL4A1
Protein Name	Collagen Type IV
Purification Process	Protein A
Specificity	Endogenous
Formulation	PBS, 50% glycerol, 0.05% Proclin 300, 0.05%BSA
Source	Monoclonal, Rabbit,IgG
Dilution	IHC 1:200-1000; WB 1:1000-5000; IF 1:200-1000; ELISA 1:5000-20000; Note: For IHC, we suggest antigen retrieval with TE buffer pH 9.0
Concentration	0.5 mg/ml
Purity	≥90%
Storage Stability	-15 ° C to -25 ° C/1 year(Do not lower than -25 ° C)
Synonyms	Arresten ; BSVD ; CO4A1_HUMAN ; COL4A1 ; COL4A1 NC1 domain ; COL4A2 ; COL4A3 ; COL4A4 ; COL4A5 ; collagen alpha-1 ; IV ; chain ; Collagen IV Alpha 1 Polypeptide ; Collagen IV Alpha 2 Polypeptide ; Collagen Of Basement Membrane Alpha 1 Chain ; Collagen Of Basement Membrane Alpha 2 Chain ; Collagen Type IV Alpha 1 ; collagen type IV alpha 1 chain ; Collagen Type IV Alpha 2 ; Collagen Type IV Alpha 3 ; Collagen Type IV Alpha 4 ; Collagen Type IV Alpha 5 ; RatOR
Observed Band	200kD
Calculated Molecular Weight	160kD
Cell Pathway	Cytoplasmic
Tissue Specificity	Highly expressed in placenta.
Function	Disease:Defects in COL4A1 are a cause of brain small vessel disease with hemorrhage [MIM:607595]. Brain small vessel diseases underlie 20 to 30 percent of ischemic strokes and a larger proportion of intracerebral hemorrhages. Inheritance is autosomal dominant. Disease:Defects in COL4A1 are a cause of porencephaly type 1 [MIM:175780]; also known as encephaloclastic





porencephaly. Porencephaly is a term used for any cavitation or cerebrospinal fluid-filled cyst in the brain. Porencephaly type 1 is usually unilateral and results from focal destructive lesions such as fetal vascular occlusion or birth trauma . Inheritance is autosomal dominant.,Disease:Defects in COL4A1 are the cause of hereditary angiopathy with nephropathy, aneurysms, and muscle cramps (HANAC) [MIM:611773]. The clinical renal manifestations include hematuria and bilateral large cysts. Histologic analysis revealed complex basement membrane defects in kidney and skin. The systemic angiopathy appears to affect both small vessels and large arteries.,Domain:Alpha chains of type IV collagen have a non-collagenous domain (NC1) at their C-terminus, frequent interruptions of the G-X-Y repeats in the long central triple-helical domain (which may cause flexibility in the triple helix), and a short N-terminal triple-helical 7S domain.,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. Potently inhibits endothelial cell proliferation and angiogenesis. Inhibits angiogenesis potentially via mechanisms involving cell surface proteoglycans and the alpha and beta integrins of endothelial cells.,PTM:Lysines at the third position of the tripeptide repeating unit (G-X-Y) are hydroxylated in all cases and bind carbohydrates.,PTM:Prolines at the third position of the tripeptide repeating unit (G-X-Y) are hydroxylated in some or all of the chains.,PTM:The trimeric structure of the NC1 domains may be stabilized by covalent bonds between Lys and Met residues.,PTM:Type IV collagens contain numerous cysteine residues which are involved in inter- and intramolecular disulfide bonding. 12 of these, located in the NC1 domain, are conserved in all known type IV collagens.,similarity:Belongs to the type IV collagen family.,similarity:Contains 1 collagen IV NC1 (C-terminal non-collagenous) domain.,subunit:There are six type IV collagen isoforms, alpha 1(IV)-alpha 6(IV), each of which can form a triple helix structure with 2 other chains to generate type IV collagen network.,tissue specificity:Highly expressed in placenta.,

Background

This gene encodes a type IV collagen alpha protein. Type IV collagen proteins are integral components of basement membranes. This gene shares a bidirectional promoter with a paralogous gene on the opposite strand. The protein consists of an amino-terminal 7S domain, a triple-helix forming collagenous domain, and a carboxy-terminal non-collagenous domain. It functions as part of a heterotrimer and interacts with other extracellular matrix components such as perlecan, proteoglycans, and laminins. In addition, proteolytic cleavage of the non-collagenous carboxy-terminal domain results in a biologically active fragment known as arresten, which has anti-angiogenic and tumor suppressor properties. Mutations in this gene cause porencephaly, cerebrovascular disease, and renal and muscular defects. Alternative splicing results in multiple transcript variants . [provided by RefSeq, Dec 2014],

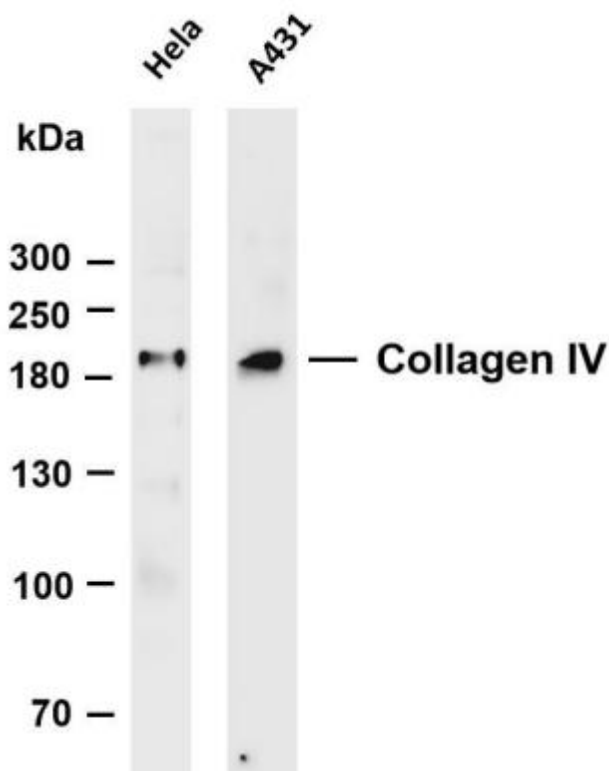
matters needing attention

Avoid repeated freezing and thawing!

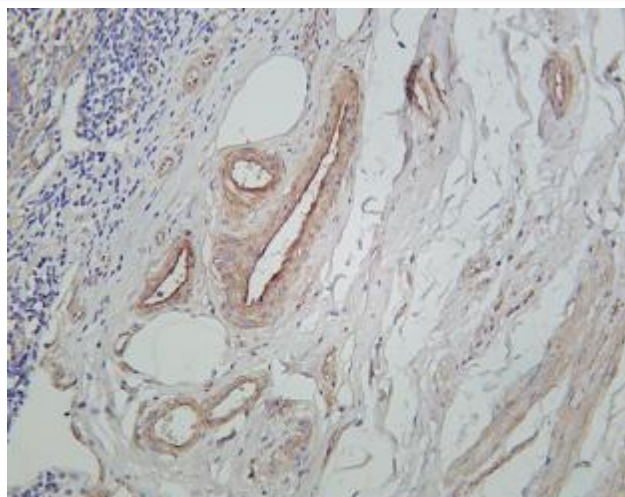
Usage suggestions

This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.

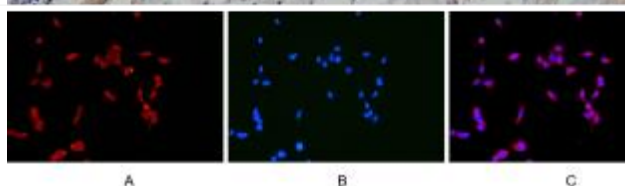




Various whole cell lysates were separated by 4-20% SDS-PAGE, and the membrane was blotted with anti-Collagen IV antibody. The HRP-conjugated Goat anti-Rabbit IgG(H + L) antibody was used to detect the antibody. Lane 1: HeLa Lane 2: A431 Predicted band size: 160kDa Observed band size: 200kDa

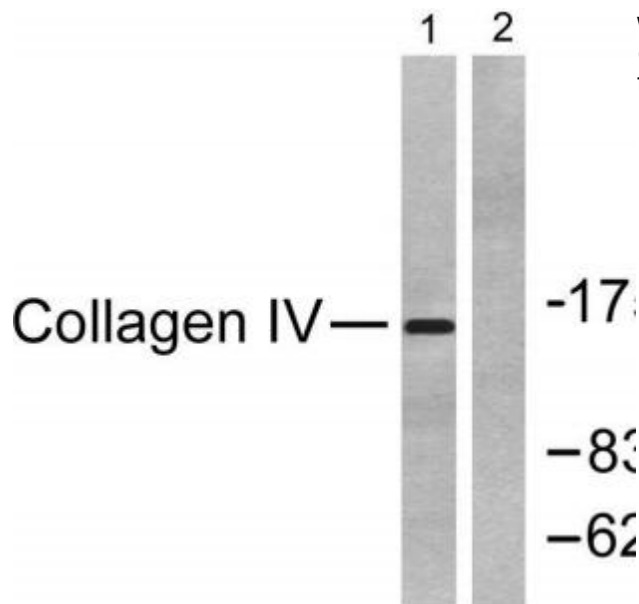


Human appendix was stained with Anti-Collagen IV rabbit antibody



Immunofluorescence analysis of HEK293. Picture A: Collagen IV antibody (red). Picture B: DAPI (blue). Picture C: Merge of A+B





Western blot analysis of lysates from HeLa cells, using Collagen IV Antibody. The lane on the right is blocked with the synthesized peptide.

