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Collagen IV Rabbit pAb

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Catalog # AP94831

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P02462
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	160611
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Collagen alpha-1(IV) chain
Epitope Specificity	1571-1669/1669
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Secreted, extracellular space, extracellular matrix, basement membrane.
SIMILARITY	Contains 1 FAD-binding FR-type domain.Contains 1 ferric oxidoreductase 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.
Post-translational modifications	Lysines at the third position of the tripeptide repeating unit (G-X-Y) are hydroxylated in all cases and bind carbohydrates. Prolines at the third position of the tripeptide repeating unit (G-X-Y) are hydroxylated in some or all of the chains. 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. The trimeric structure of the NC1 domains is stabilized by covalent bonds between Lys and Met residues. Proteolytic processing produces the C-terminal NC1 peptide, arresten.
DISEASE	Defects in COL4A1 are a cause of brain small vessel disease with hemorrhage (BSVDH) [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. 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. Defects in COL4A1 are a cause of familial porencephaly (POREN1) [MIM:175780]. 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. Type 2, or schizencephalic porencephaly, is usually symmetric and represents a primary defect or arrest in the development of the cerebral ventricles.

Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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. [provided by RefSeq, Jul 2008]

Additional Information

Gene ID	1282
Other Names	Collagen alpha-1(IV) chain, Arresten, COL4A1 (HGNC:2202)
Target/Specificity	Highly expressed in placenta.
Dilution	IHC-P=1:200-1000,IHC-F=1:200-1000,IF=1:200-1000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

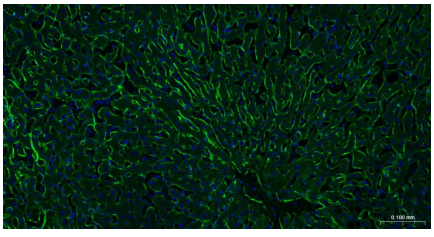
Protein Information

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

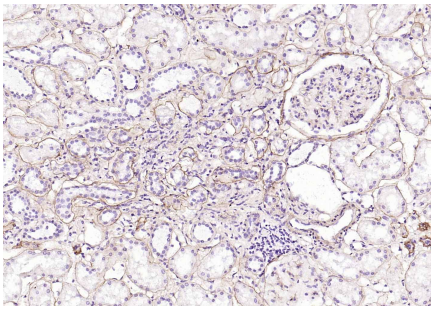
This gene encodes the major type IV alpha collagen chain of basement membranes. Like the other members of the type IV collagen gene family, this gene is organized in a head-to-head conformation with another type IV collagen gene so that each gene pair shares a common promoter. [provided by RefSeq, Jul 2008]

Images

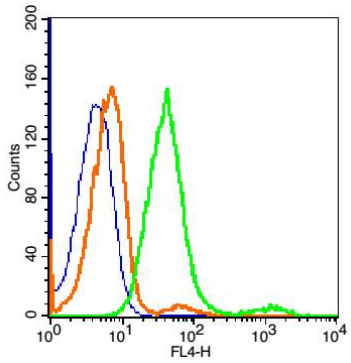


Paraformaldehyde-fixed, paraffin embedded Human Liver; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; The section was incubated with Collagen IV Polyclonal Antibody, Unconjugated (AP94831) at 1:200 overnight at 4°C. Followed by conjugated Goat Anti-Rabbit IgG antibody (green, AP94831-BF488), DAPI (blue, C02-04002) was used to stain the cell nuclei.

Paraformaldehyde-fixed, paraffin embedded (human kidney); Antigen retrieval by boiling in sodium citrate



buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Incubation with (Collagen IV) Polyclonal Antibody, Unconjugated (AP94831) at 1:600 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.



Blank control: Hepg2 Cells(blue). Primary Antibody: Rabbit Anti-Collagen IV/AF647 Conjugated antibody (AP94831), Dilution: 1 µg in 100 µL 1X PBS containing 0.5% BSA; Isotype Control Antibody: Rabbit IgG/AF647(orange) ,used under the same conditions.