

Product name:	COL4A4 Rabbit Polyclonal Antibody
Cat number:	ABN09188
Conjugate:	Unconjugated
Size:	100µL
Clone:	Polyclonal
Concentration:	1mg/ml
Host:	Rabbit
Isotype:	IgG
Immunogen:	The antiserum was produced against synthesized peptide derived from human Collagen IV alpha4. AA range:541-590
Reactivity:	Human,Rat,Mouse
Applications:	IHC 1:100-1:300,ICC/IF 1:200-1:1000,ELISA 1:5000-1:10000
Purification:	Affinity purification
Form:	Liquid
Buffer:	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% New type preservative N.
Storage:	Store at 4°C short term. Aliquot and store at -20°C for 12 months. Avoid freeze/thaw cycles.

Background:

This gene encodes one of the six subunits of type IV collagen, the major structural component of basement membranes. This particular collagen IV subunit, however, is only found in a subset 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. Mutations in this gene are associated with type II autosomal recessive Alport syndrome (hereditary glomerulonephropathy) and with familial benign hematuria (thin basement membrane disease). Two transcripts, differing only in their transcription start sites, have been identified for this gene and, as is common for collagen genes, multiple polyadenylation sites are found in the 3' UTR. [provided by RefSeq, Jul 2008], disease: Defects in COL4A4 are a cause of Alport syndrome autosomal recessive (APSAR) [MIM:203780]. APSAR is characterized by progressive glomerulonephritis, glomerular basement membrane defects, renal failure, sensorineural deafness and specific eye abnormalities (lenticonous and macular flecks). The disorder shows considerable heterogeneity in that families differ in the age of end-stage renal disease and the occurrence of deafness., disease: Defects in COL4A4 are a cause of benign familial hematuria (BFH) [MIM:141200]; also known as thin basement membrane disease. BFH is characterized by persistent hematuria, an electron microscopically detectable thin glomerular basement membrane (GBM) and an autosomal dominant mode of inheritance. Renal function remains normal. In children, differentiation between BFH and AS can be difficult, because both disorders are manifested by persistent hematuria and thin GBM at that age., 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., PTM: Prolines at the third position of the tripeptide repeating unit (G-X-Y) are hydroxylated in some or all of the chains., 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., subcellular location: Colocalizes with COL4A4 and COL4A5 in GBM, tubular basement membrane (TBM) and synaptic basal lamina (BL)., 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. The alpha 3(IV) chain forms a triple helical protomer with alpha 4(IV) and alpha 5(IV); this triple helical structure dimerizes through NC1-NC1 domain interactions such that the alpha 3(IV), alpha 4(IV) and alpha 5(IV) chains of one protomer connect with the alpha 5(IV), alpha 4(IV) and alpha 3(IV) chains of the opposite protomer, respectively. Associates with LAMB2 at the neuromuscular junction and in GBM., tissue specificity: Alpha 3 and alpha 4 type IV collagens are colocalized and present only in basement membranes of kidney, eye, cochlea, lung and brain.,