SunLong Biotech Co.,LTD
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[Marker Primary Antibody]

Rabbit Anti-Collagen IV/HRP Conjugated antibody

Catalog Number: SL4595R-HRP

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	Anti-Collagen IV/HRP
Immunogen:	KLH conjugated synthetic peptide derived from human Collagen alpha-1(IV) chain
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
Applications:	IHC-P=1:100-500 IHC-F=1:100-500 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Human
Background:	background: Collagen IV is a major constituent of the basement membranes along with laminins, proteoglycans and enactins. It is a multimeric protein composed of 3 alpha subunits. These subunits are encoded by 6 different genes, alpha 1 through alpha 6, each of which can form a triple helix structure with 2 other subunits to form type IV collagen. It can form insoluble fibers with high tensile strength. Collagen IV is useful in detecting the loss of parts of basement membranes in carcinomas. **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. Arresten, comprising the C-terminal NC1 domain, inhibits angiogenesis and tumor formation. The C-terminal half is found to possess the anti-angiogenic activity. Specifically inhibits endothelial cell proliferation, migration and tube

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	formation. Inhibits expression of hypoxia-inducible factor 1alpha and ERK1/2 and p38 MAPK activation. Ligand for alpha1/beta1 integrin. **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. **Subcellular Location:** Secreted, extracellular space, extracellular matrix, basement membrane. **Tissue Specificity:** Highly expressed in placenta. **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. **Similarity:** Contains 1 FAD-binding FR-type domain. Contains 1 ferric oxidoreductase domain. **Database links:** **Entrez Gene:** 282191 Cow **Entrez Gene:** 317711 Cow

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	Entrez Gene: 407107 Cow **Entrez Gene:** 508632 Cow **Entrez Gene:** 511602 Cow **Entrez Gene:** 1282 Human **Entrez Gene:** 1284 Human **Entrez Gene:** 1285 Human **Entrez Gene:** 1286 Human **Entrez Gene:** 1287 Human **Entrez Gene:** 12826 Mouse **Entrez Gene:** 12827 Mouse **Entrez Gene:** 12828 Mouse **Entrez Gene:** 12829 Mouse **Entrez Gene:** 12830 Mouse **Entrez Gene:** 397502 Pig **Entrez Gene:** 290905 Rat **Entrez Gene:** 301562 Rat **Entrez Gene:** 306628 Rat **Entrez Gene:** 363265 Rat **Entrez Gene:** 363457 Rat Omim: 120070 Human Omim: 120090 Human Omim: 120130 Human Omim: 120131 Human Omim: 303630 Human **SwissProt:** P02462 Human **SwissProt:** P08572 Human **SwissProt:** P29400 Human **SwissProt:** P53420 Human **SwissProt:** Q01955 Human **SwissProt:** P02463 Mouse **SwissProt:** P08122 Mouse **SwissProt:** Q9QZR9 Mouse **SwissProt:** Q9QZS0 Mouse **Unigene:** 17441 Human **Unigene:** 369089 Human **Unigene:** 570065 Human **Unigene:** 591645 Human **Unigene:** 738 Mouse **Unigene:** 121139 Rat **Unigene:** 22075 Rat

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