

## Rabbit Anti-Collagen IV/APC Conjugated antibody

SL4595R-APC

<b>Product Name</b>	Anti-Collagen IV/APC
<b>Chinese Name</b>	APC 标记的 IV 型 Collagen protein/4 型 Collagen protein/Collagen protein4 抗体
<b>Alias</b>	Arresten; Canstatin; COL4A1; HANAC; ICH; POREN1; Collagen Alpha 1(IV) Chain; Collagen IV Alpha 1 Polypeptide; Collagen Of Basement Membrane Alpha 1 Chain; Collagen Of Basement Membrane Alpha 2 Chain; Collagen Type IV Alpha 1; DKFZp686I14213; FLJ22259; collagen alpha-1(IV) chain preproprotein; collagen alpha-1(IV) chain preproprotein; Col4a1 protein; collagen of basement membrane, alpha-1 chain; collagen IV, alpha-1 polypeptide; collagen alpha-1(IV) chain; COL4A1 NC1 domain; CO4A1_HUMAN.
<b>Research Area</b>	Tumour immunology
<b>Immunogen Species</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>React Species</b>	Human
<b>Applications</b>	IF=1:100-500 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
<b>Molecular weight</b>	165kDa
<b>Form</b>	Lyophilized or Liquid
<b>Concentration</b>	1mg/ml
<b>immunogen</b>	KLH conjugated synthetic peptide derived from human Collagen alpha-1(IV) chain
<b>Lsotype</b>	IgG
<b>Purification</b>	affinity purified by Protein A
<b>Storage Buffer</b>	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.
<b>Storage</b>	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.

**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 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.

**Product Detail**

**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

[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

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[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

[Unigene: 53801](#)

**Important Note:**

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.