

Product datasheet

Anti-Collagen IV antibody [EPR22911-127] ab236640

Recombinant RabMAb

[4 References](#) [8 Images](#)

Overview

Product name	Anti-Collagen IV antibody [EPR22911-127]
Description	Rabbit monoclonal [EPR22911-127] to Collagen IV
Host species	Rabbit
Tested applications	Suitable for: IHC-P, IHC-Fr Unsuitable for: Flow Cyt, ICC/IF, IP or WB
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
Positive control	IHC-P: Mouse kidney and cerebrum tissue; rat kidney tissue; human kidney and glioma tissue. IHC-Fr: Mouse kidney tissue; rat kidney tissue.
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: <ul style="list-style-type: none"> - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information see here . Our RabMAb [®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb[®] patents .

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: PBS, 0.05% BSA, 40% Glycerol (glycerin, glycerine)
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR22911-127

Isotype

IgG

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab236640 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. Use at 1/2000 dilution for mouse and rat, 1/500 for human.
IHC-Fr		1/100. Heat mediated antigen retrieval using sodium citrate buffer (10 mM citrate pH 6.0 and 0.05% Tween-20).

Application notes

Is unsuitable for Flow Cyt, ICC/IF, IP or WB.

Target

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.

Tissue specificity

Highly expressed in placenta.

Involvement in 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 porencephaly familial (PCEPH) [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.

Sequence similarities

Belongs to the type IV collagen family.
Contains 1 collagen IV NC1 (C-terminal non-collagenous) domain.

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.

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.

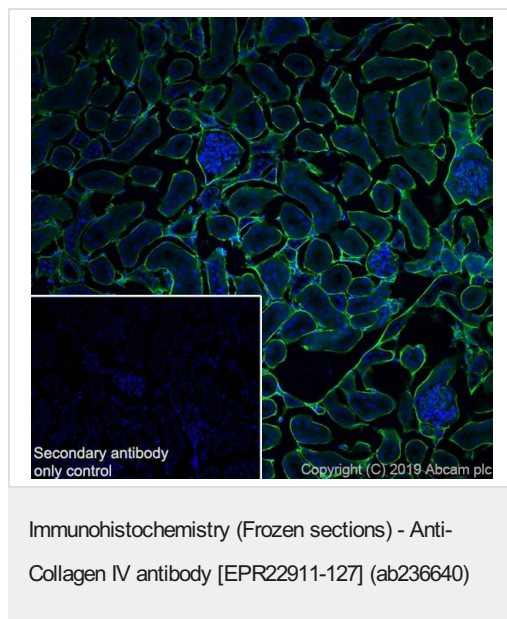
The trimeric structure of the NC1 domains is stabilized by covalent bonds between Lys and Met residues.

Proteolytic processing produces the C-terminal NC1 peptide, arresten.

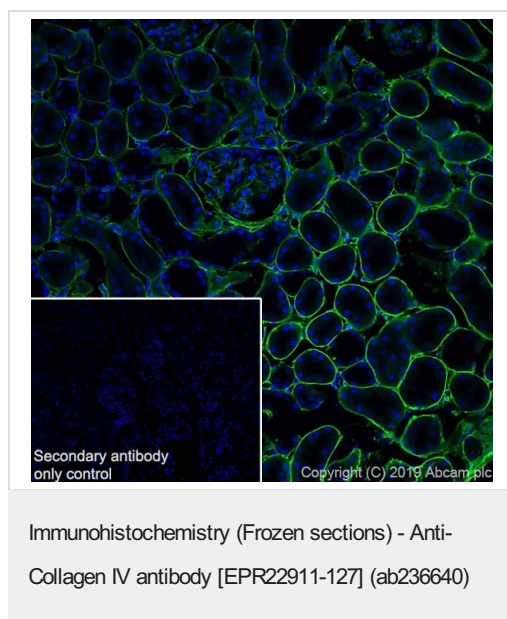
Cellular localization

Secreted > extracellular space > extracellular matrix > basement membrane.

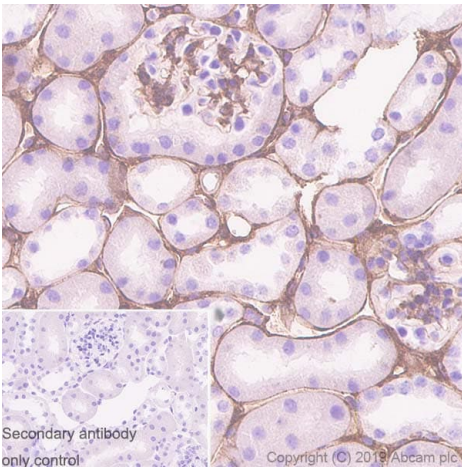
Images



Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen mouse kidney tissue labeling Collagen IV with ab236640 at 1/100 dilution (green), followed by [ab150077](#) AlexaFluor[®]488 Goat anti-Rabbit secondary at a 1/1,000 dilution. Positive staining on tubular basement membrane of mouse kidney (PMID: 23757342) is observed. Counterstained with DAPI (blue). Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is [ab150077](#) AlexaFluor[®]488 Goat anti-Rabbit used at a 1/1,000 dilution. Heat mediated antigen retrieval using sodium citrate buffer (10 mM citrate pH 6.0 and 0.05% Tween-20).

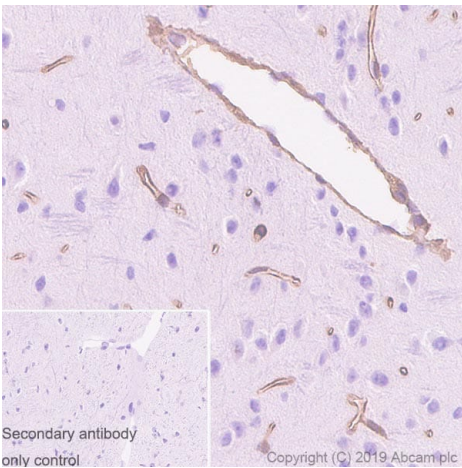


Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen rat kidney tissue labeling Collagen IV with ab236640 at 1/100 dilution (green), followed by [ab150077](#) AlexaFluor[®]488 Goat anti-Rabbit secondary at a 1/1,000 dilution. Positive staining on tubular basement membrane of rat kidney (PMID: 23757342) is observed. Counterstained with DAPI (blue). Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is [ab150077](#) AlexaFluor[®]488 Goat anti-Rabbit used at a 1/1,000 dilution. Heat mediated antigen retrieval using sodium citrate buffer (10 mM citrate pH 6.0 and 0.05% Tween-20).



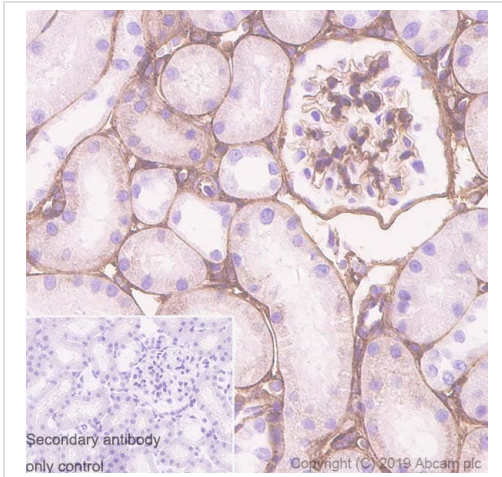
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen IV antibody [EPR22911-127] (ab236640)

Immunohistochemical analysis of paraffin-embedded mouse kidney tissue labeling Collagen IV with ab236640 at 1/2000 dilution, followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Basement membrane staining on mouse kidney (PMID: 26260163). The section was incubated with ab236640 for 15 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND[®] RX instrument. Counterstained with hematoxylin. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.



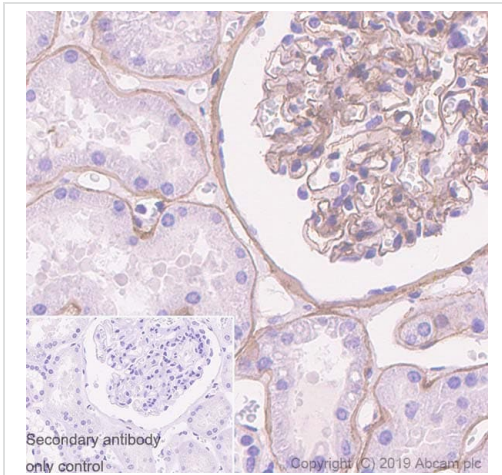
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen IV antibody [EPR22911-127] (ab236640)

Immunohistochemical analysis of paraffin-embedded mouse cerebrum tissue labeling Collagen IV with ab236640 at 1/2000 dilution, followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Positive staining on the blood vessels in mouse cerebrum (PMID: 20063114). The section was incubated with ab236640 for 15 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND[®] RX instrument. Counterstained with hematoxylin. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.



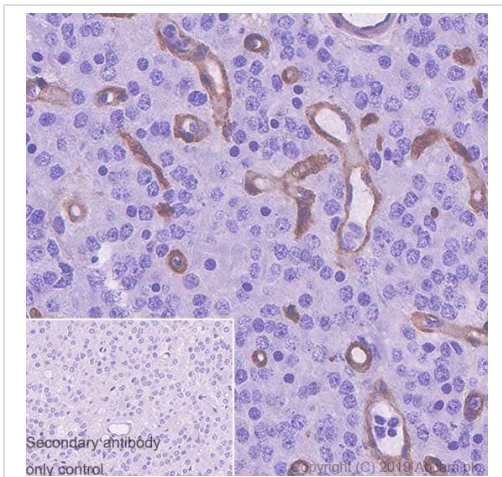
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen IV antibody [EPR22911-127] (ab236640)

Immunohistochemical analysis of paraffin-embedded rat kidney tissue labeling Collagen IV with ab236640 at 1/2000 dilution, followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Basement membrane staining on rat kidney (PMID: 26260163). The section was incubated with ab236640 for 15 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND[®] RX instrument. Counterstained with hematoxylin. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen IV antibody [EPR22911-127] (ab236640)





Immunohistochemical analysis of paraffin-embedded human kidney tissue labeling Collagen IV with ab236640 at 1/500 dilution, followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Basement membrane staining on human kidney (PMID: 26260163). The section was incubated with ab236640 for 15 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND[®] RX instrument. Counterstained with hematoxylin. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen IV antibody [EPR22911-127] (ab236640)

Immunohistochemical analysis of paraffin-embedded human glioma tissue labeling Collagen IV with ab236640 at 1/500 dilution, followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Positive staining the blood vessels in human glioma (PMID: 20063114). The section was incubated with ab236640 for 15 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND[®] RX instrument. Counterstained with hematoxylin. Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

Why choose a recombinant antibody?

 Research with confidence Consistent and reproducible results	 Long-term and scalable supply Recombinant technology
 Success from the first experiment Confirmed specificity	 Ethical standards compliant Animal-free production

Anti-Collagen IV antibody [EPR22911-127] (ab236640)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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