abcam

Product datasheet

Anti-Collagen IV antibody [EPR22911-127] - BSA and Azide free ab256353

Recombinant RabMAb

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Overview

Product name	Anti-Collagen IV antibody [EPR22911-127] - BSA and Azide free
Description	Rabbit monoclonal [EPR22911-127] to Collagen IV - BSA and Azide free
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	ab256353 is the carrier-free version of **ab236640**. Our **carrier-free** antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. The carrier-free buffer and high concentration allow for increased conjugation efficiency. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications. Use our **conjugation kits** for antibody conjugates that are ready-to-use in as little as 20 minutes with <1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold. This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc. This product is a recombinant monoclonal antibody, which offers several advantages including: - 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. Do Not Freeze.
Storage buffer	pH: 7.2 Constituent: PBS
Carrier free	Yes
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR22911-127
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab256353 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	★★★★★ (2)	Use at an assay dependent concentration. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
IHC-Fr		Use at an assay dependent concentration.

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

Target

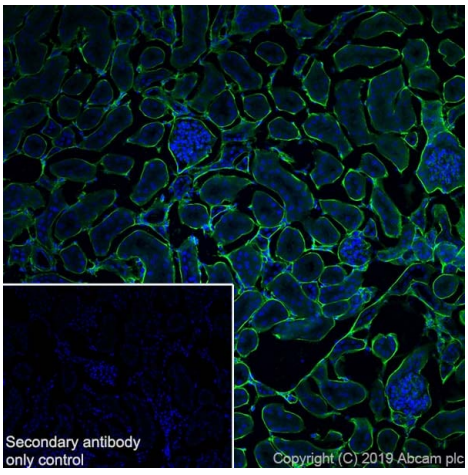
Function Type IV collagen is the major structural component of glomerular basement membranes (GBM), forming a 'chicken-wire' meshwork together with laminins, proteoglycans and entactin/nidogen. Arresten, comprising the C-terminal NC1 domain, inhibits angiogenesis and tumor formation. The C-terminal half 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.

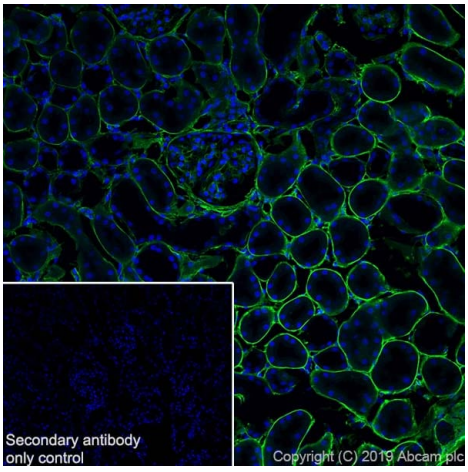
Images



Immunohistochemistry (Frozen sections) - Anti-Collagen IV antibody [EPR22911-127] - BSA and Azide free (ab256353)

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).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab236640**).



Immunohistochemistry (Frozen sections) - Anti-Collagen IV antibody [EPR22911-127] - BSA and Azide free (ab256353)

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).

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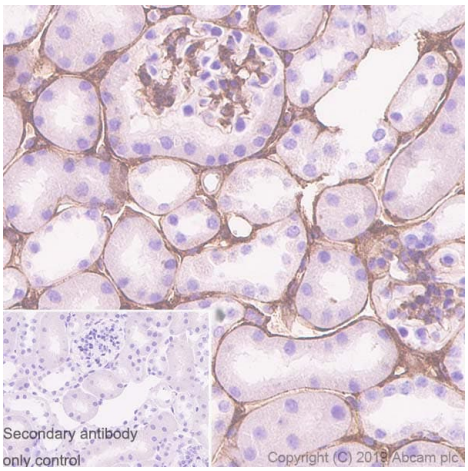
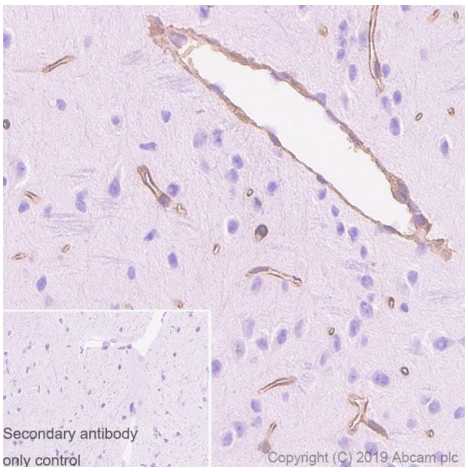


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen IV antibody [EPR22911-127] - BSA and Azide free (ab256353)

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.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab236640**).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen IV antibody [EPR22911-127] - BSA and Azide free (ab256353)

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.

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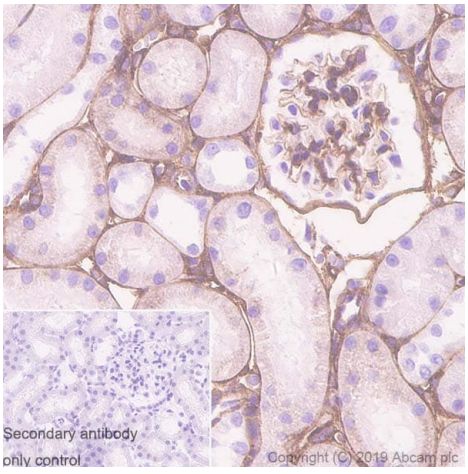

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen IV antibody [EPR22911-127] - BSA and Azide free (ab256353)

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.

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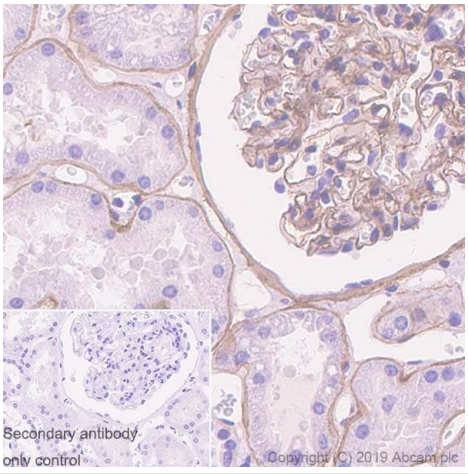

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen IV antibody [EPR22911-127] - BSA and Azide free (ab256353)

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.

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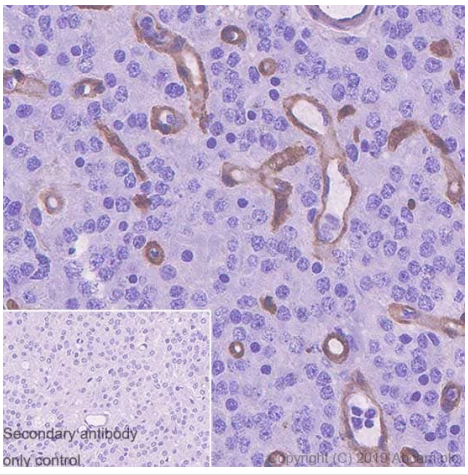

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen IV antibody [EPR22911-127] - BSA and Azide free (ab256353)

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.

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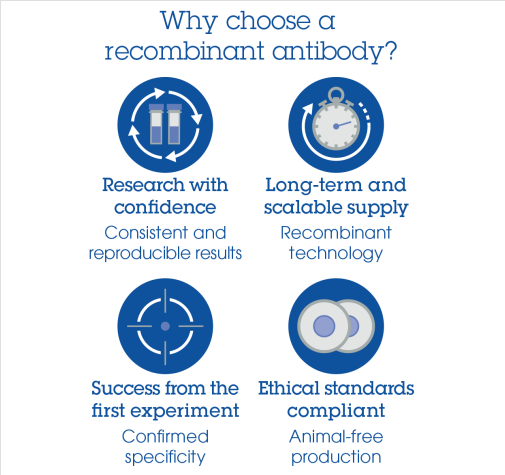

Anti-Collagen IV antibody [EPR22911-127] - BSA and Azide free (ab256353)

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