abcam

Product datasheet

Anti-Collagen IV antibody [COL-94] ab6311

10 Abreviews 42 References 2 Images

Overview

Product name	Anti-Collagen IV antibody [COL-94]
Description	Mouse monoclonal [COL-94] to Collagen IV
Host species	Mouse
Tested applications	**Suitable for:** IHC-P
Species reactivity	**Reacts with:** Human **Predicted to work with:** Non human primates **Does not react with:** Rat, Sheep, Goat, Chicken, Cat
Immunogen	Full length native protein (purified) corresponding to Human Collagen IV. Database link: **P02462**
Epitope	Recognises an epitope located on the alpha 1 and/or alpha 2 chains of human collage type IV.
Positive control	Natural Human Collagen IV protein (**ab7536**) can be used as a positive control in WB. Human skin tissue.
General notes	This product was changed from ascites to tissue culture supernatant on 10th July 2019. Lot numbers higher than GR3230927 are from tissue culture supernatant. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team. Collagen IV is a major constituent of the basement membranes along with laminins and enactins. It is composed of alpha 1 IV chain and alpha 2 IV chain in 2:1 ratio . It can form insoluble fibers with high tensile strength. Antibody to collagen IV is useful in detecting the loss of parts of basement membrane in carcinomas. The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

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: 7.40 Preservative: 0.1% Sodium azide Constituent: PBS
Purity	Proprietary Purification
Purification notes	Purified from hybridoma cell culture
Clonality	Monoclonal
Clone number	COL-94
Isotype	IgG1

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab6311 in the following tested applications.

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

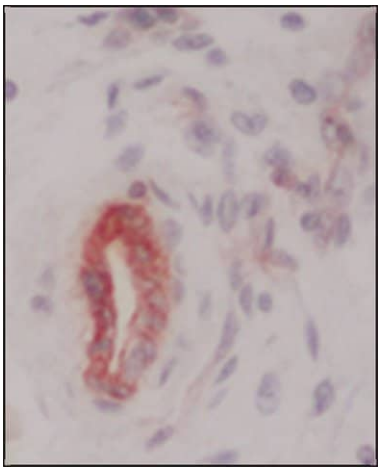
Application	Abreviews	Notes
IHC-P	★★★★★ **(5)**	Use a concentration of 4 - 8 µg/ml. The antibody was developed using biotin/ExtrAvidin®-Peroxidase.

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.

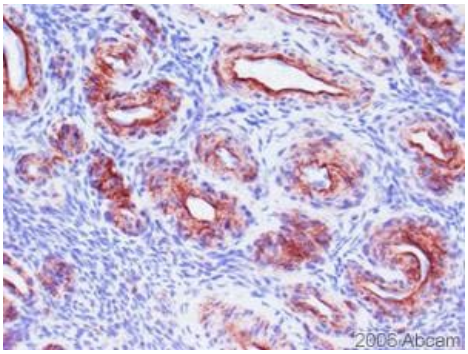
Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen IV antibody [COL-94] (ab6311)

Immunohistochemical analysis of paraffin-embedded human tongue tissue staining Collagen IV with ab6311 at 8µg/ml. The antibody was developed using biotin/ExtrAvidin®-Peroxidase.

This image was generated using the ascites version of the product.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen IV antibody [COL-94] (ab6311)

This image is courtesy of an abreview submitted by Birgitta Weijdegard, Sahlgrenska Cancer Center.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human ovary tissue sections labeling Collagen IV with unpurified ab6311 at 1/400 dilution. Tissue was blocked with 1.4% serum for 30 minutes. Heat mediated antigen retrieval was performed. An undiluted monoclonal alkaline phosphatase conjugated secondary antibody was used.
Blood vessels in whole ovarian section. Clear staining is seen in the vessel walls.

This image was generated using the ascites version of the product.

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