abcam

Product datasheet

Anti-Collagen IV antibody [EPR20966] ab214417

敲除验证 重组 RabMAb

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概述

产品名称	Anti-Collagen IV抗体[EPR20966]
描述	兔单克隆抗体[EPR20966] to Collagen IV
宿主	Rabbit
特异性	The immunogen is within the Arresten region of Collagen alpha-1(IV) chain.
经测试应用	**适用于:** IHC-P, WB
种属反应性	**与反应:** Human
免疫原	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
阳性对照	IHC-P: Human kidney and thyroid carcinoma tissues.
常规说明	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**.

性能

形式	Liquid
存放说明	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.
存储溶液	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 0.05% BSA, 40% Glycerol, PBS
纯度	Protein A purified
克隆	单克隆
克隆编号	EPR20966
同种型	IgG

应用

The Abpromise guarantee **Abpromise™承诺保证使用ab214417于以下的经测试应用**

"应用说明"部分 下显示的仅为推荐的起始稀释度;实际最佳的稀释度/浓度应由使用者检定。

应用	Ab评论	说明
IHC-P		1/500. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
WB		Use at an assay dependent concentration. Detects a band of approximately 200 kDa (predicted molecular weight: 161 kDa).

靶标

功能

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.

组织特异性

Highly expressed in placenta.

疾病相关

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.

序列相似性

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

结构域

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.

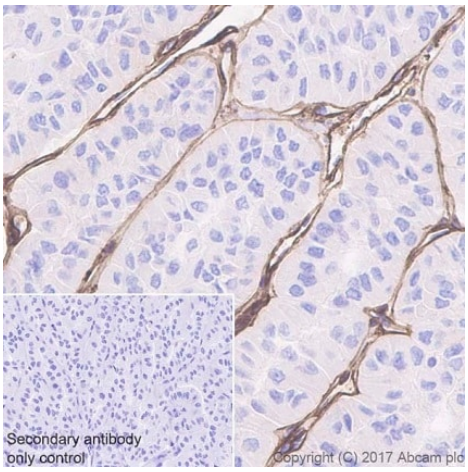
翻译后修饰

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.

细胞定位 Secreted > extracellular space > extracellular matrix > basement membrane.

图片

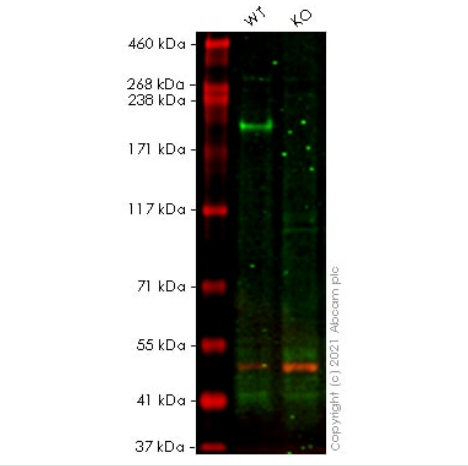


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen IV antibody [EPR20966] (ab214417)

Immunohistochemical analysis of paraffin-embedded human thyroid carcinoma tissue labeling Collagen IV with ab214417 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Basement membrane staining on human thyroid cancer. Counter stained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Western blot - Anti-Collagen IV antibody [EPR20966] (ab214417)

All lanes : Anti-Collagen IV antibody [EPR20966] (ab214417) at 1/500 dilution

Lane 1 : Wild-type HeLa cell lysate
Lane 2 : Col4a1 knockout HeLa cell lysate

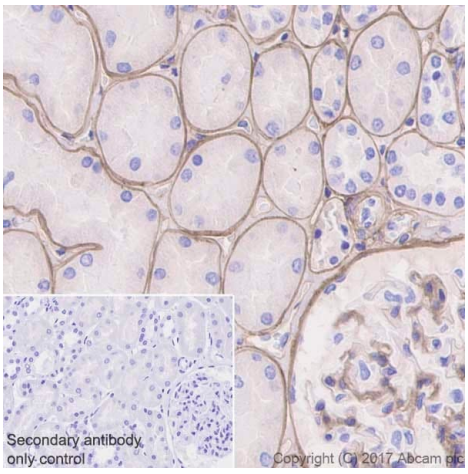
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 161 kDa
Observed band size: 200 kDa

False colour image of Western blot: Anti-Collagen IV antibody [EPR20966] staining at 1/500 dilution, shown in green; Mouse anti-Alpha Tubulin [DM1A] (**ab7291**) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab214417 was shown to bind specifically to Collagen IV. A band was observed at 200 kDa in wild-type HeLa cell lysates with no signal observed at this size in Col4a1 knockout cell line **ab255379** (knockout cell lysate

ab263755). To generate this image, wild-type and Col4a1 knockout HeLa cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3 % milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4°C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (**ab216776**) at 1/20000 dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Collagen IV antibody [EPR20966] (ab214417)

Immunohistochemical analysis of paraffin-embedded human kidney tissue labeling Collagen IV with ab214417 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Basement membrane staining on human kidney (PMID: 20551626, PMID: 24445937). Counter stained with hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Anti-Collagen IV antibody [EPR20966] (ab214417)

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