

**Product Name: Collagen IV(8E5)Mouse Monoclonal Antibody**  
**Catalog #: AMM09216**

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## Summary

|                        |   |
|------------------------|---|
| <b>Production Name</b> | Collagen IV(8E5)Mouse Monoclonal Antibody |
| <b>Description</b>     | Mouse Monoclonal Antibody                 |
| <b>Host</b>            | Mouse                                     |
| <b>Application</b>     | IF-P,IF-F,ICC/IF,IHC-P                    |
| <b>Reactivity</b>      | Human,Mouse,Rat                           |

## Performance

|                     |  |
|---------------------|--|
| <b>Conjugation</b>  | Unconjugated   |
| <b>Modification</b> | Unmodified   |
| <b>Isotype</b>      | IgG  |
| <b>Clonality</b>    | Monoclonal   |
| <b>Form</b>         | Liquid   |
| <b>Storage</b>      | Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles. |
| <b>Buffer</b>       | Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% New type preservative N.       |
| <b>Purification</b> | Affinity purification  |

## Immunogen

|                          |   |
|--------------------------|---|
| <b>Gene Name</b>         | COL4A1  |
| <b>Alternative Names</b> | Collagen alpha-1(IV) chain [Cleaved into: Arresten] |
| <b>Gene ID</b>           | 1282.0  |
| <b>SwissProt ID</b>      | p02462.Synthetic Peptide of Collagen IV             |

## Application

|                         |   |
|-------------------------|---|
| <b>Dilution Ratio</b>   | IF-P/IF-F/ICC/IF 1:50-200, IHC-P 1:50-300 |
| <b>Molecular Weight</b> | 161kDa                                    |

## Background

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This gene encodes a type IV collagen alpha protein. Type IV collagen proteins are integral components of basement membranes. This gene shares a bidirectional promoter with a paralogous gene on the opposite strand. The protein consists of an amino-terminal 7S domain, a triple-helix forming collagenous domain, and a carboxy-terminal non-collagenous domain. It functions as part of a heterotrimer and interacts with other extracellular matrix components such as perlecan, proteoglycans, and laminins. In addition, proteolytic cleavage of the non-collagenous carboxy-terminal domain results in a biologically active fragment known as arresten, which has anti-angiogenic and tumor suppressor properties. Mutations in this gene cause porencephaly, cerebrovascular disease, and renal and muscular defects. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Dec 2014],disease:Defects in COL4A1 are a cause of brain small vessel disease with hemorrhage [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.,disease:Defects in COL4A1 are a cause of porencephaly type 1 [MIM:175780]; also known as encephaloclastic porencephaly. 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. Inheritance is autosomal dominant.,disease: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.,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.,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. Potently inhibits endothelial cell proliferation and angiogenesis. Inhibits angiogenesis potentially via mechanisms involving cell surface proteoglycans and the alpha and beta integrins of endothelial cells.,PTM:Lysines at the third position of the tripeptide repeating unit (G-X-Y) are hydroxylated in all cases and bind carbohydrates.,PTM:Prolines at the third position of the tripeptide repeating unit (G-X-Y) are hydroxylated in some or all of the chains.,PTM:The trimeric structure of the NC1 domains may be stabilized by covalent bonds between Lys and Met residues.,PTM: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.,similarity:Belongs to the type IV collagen family.,similarity:Contains 1 collagen IV NC1 (C-terminal non-collagenous) domain.,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.,tissue specificity:Highly expressed in placenta.,

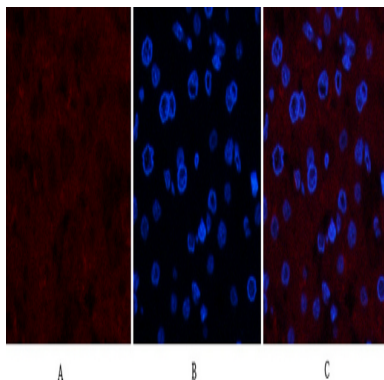
## Research Area

Focal adhesion;ECM-receptor interaction;Pathways in cancer;Small cell lung cancer;

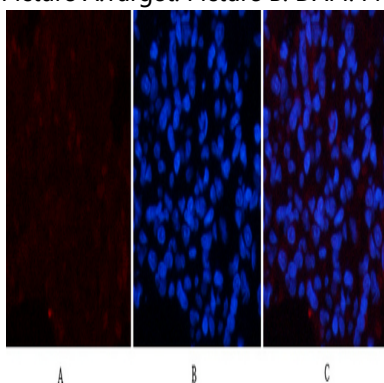
## Image Data

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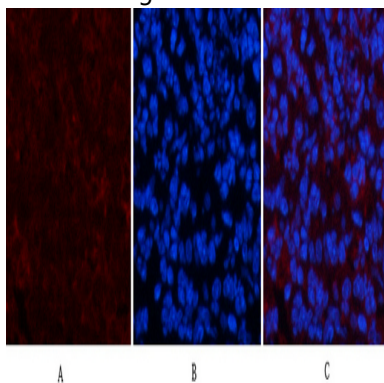
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Immunofluorescence analysis of human-liver tissue. 1, Collagen IV Mouse Monoclonal Antibody (8E5) (red) was diluted at 1:200 (4°C, overnight). 2, Cy3 labeled Secondary antibody was diluted at 1:300 (room temperature, 50min). 3, Picture B: DAPI (blue) 10min. Picture A: Target. Picture C: merge of A+B

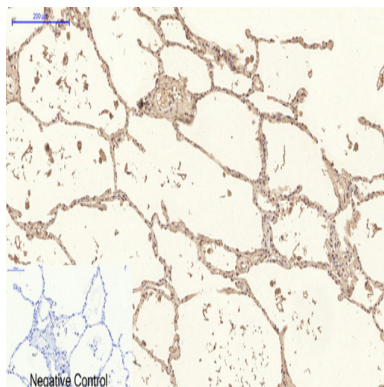


Immunofluorescence analysis of rat-lung tissue. 1, Collagen IV Mouse Monoclonal Antibody (8E5) (red) was diluted at 1:200 (4°C, overnight). 2, Cy3 labeled Secondary antibody was diluted at 1:300 (room temperature, 50min). 3, Picture B: DAPI (blue) 10min. Picture A: Target. Picture C: merge of A+B

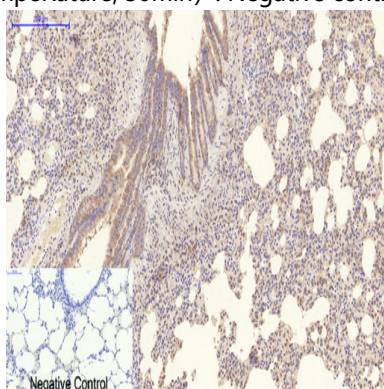


Immunofluorescence analysis of mouse-spleen tissue. 1, Collagen IV Mouse Monoclonal Antibody (8E5) (red) was diluted at 1:200 (4°C, overnight). 2, Cy3 labeled Secondary antibody was diluted at 1:300 (room temperature, 50min). 3, Picture B: DAPI (blue) 10min. Picture A: Target. Picture C: merge of A+B

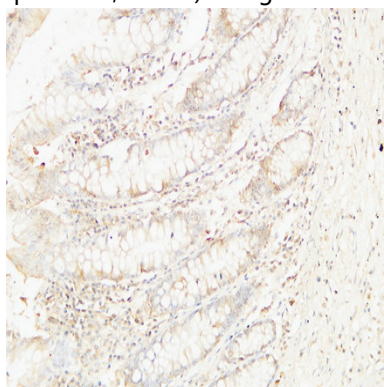
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Immunohistochemical analysis of paraffin-embedded Human-lung tissue. 1, Collagen IV Mouse Monoclonal Antibody (8E5) was diluted at 1:200 (4°C, overnight) . 2, Sodium citrate pH 6.0 was used for antibody retrieval (>98°C, 20min) . 3, Secondary antibody was diluted at 1:200 (room temperature, 30min) . Negative control was used by secondary antibody only.

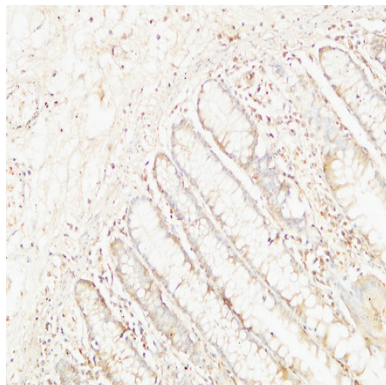


Immunohistochemical analysis of paraffin-embedded Rat-lung tissue. 1, Collagen IV Mouse Monoclonal Antibody (8E5) was diluted at 1:200 (4°C, overnight) . 2, Sodium citrate pH 6.0 was used for antibody retrieval (>98°C, 20min) . 3, Secondary antibody was diluted at 1:200 (room temperature, 30min) . Negative control was used by secondary antibody only.

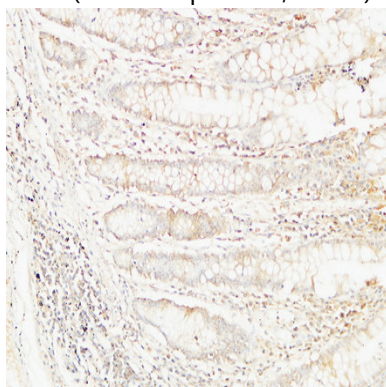


Immunohistochemical analysis of paraffin-embedded Human colon. 1, Antibody was diluted at 1:200 (4°C, overnight) . 2, High-pressure and temperature EDTA, pH 8.0 was used for antigen retrieval. 3, Secondary antibody was diluted at 1:200 (room temperature, 30min) .

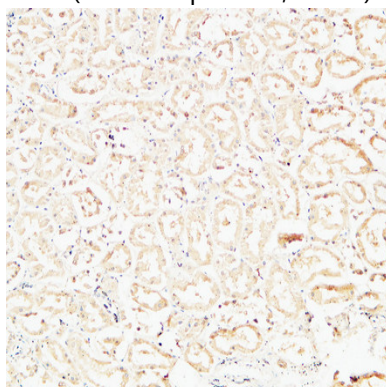
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Immunohistochemical analysis of paraffin-embedded Human colon. 1, Antibody was diluted at 1:200 (4°,overnight) . 2, High-pressure and temperature EDTA, pH8.0 was used for antigen retrieval. 3,Secondary antibody was diluted at 1:200 (room temperature, 30min) .



Immunohistochemical analysis of paraffin-embedded Human colon. 1, Antibody was diluted at 1:200 (4°,overnight) . 2, High-pressure and temperature EDTA, pH8.0 was used for antigen retrieval. 3,Secondary antibody was diluted at 1:200 (room temperature, 30min) .



Immunohistochemical analysis of paraffin-embedded Human kidney. 1, Antibody was diluted at 1:200 (4°,overnight) . 2, High-pressure and temperature EDTA, pH8.0 was used for antigen retrieval. 3,Secondary antibody was diluted at 1:200 (room temperature, 30min) .

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**Note**

For research use only.