

Datasheet: 2150-0140

**BATCH NUMBER 165127**

|                      |                               |
|----------------------|-------------------------------|
| <b>Description:</b>  | RABBIT ANTI HUMAN COLLAGEN IV |
| <b>Specificity:</b>  | COLLAGEN IV                   |
| <b>Format:</b>       | Purified                      |
| <b>Product Type:</b> | Polyclonal Antibody           |
| <b>Isotype:</b>      | Polyclonal IgG                |
| <b>Quantity:</b>     | 0.5 ml                        |

## Product Details

### Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit [www.bio-rad-antibodies.com/protocols](http://www.bio-rad-antibodies.com/protocols).

|                                | Yes | No | Not Determined | Suggested Dilution |
|--------------------------------|-----|----|----------------|--------------------|
| Immunohistology - Frozen       | ▪   |    |                | 1/10 - 1/50        |
| Immunohistology - Paraffin (1) | ▪   |    |                | 1/10 - 1/50        |
| ELISA                          | ▪   |    |                | 1/2000             |
| Western Blotting               |     |    | ▪              |                    |
| Immunofluorescence             | ▪   |    |                | 1/10 - 1/50        |

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using the appropriate negative/positive controls.

**(1) Pretreatment is required with 1 mg/ml pepsin in 0.5 M acetic acid for two hours at 37°C and multiple buffer washes.**

|                        |  |
|------------------------|--|
| <b>Target Species</b>  | Human  |
| <b>Product Form</b>    | Purified IgG - lyophilized   |
| <b>Reconstitution</b>  | Use 500 µl sterile distilled water.  |
| <b>Preparation</b>     | Purified IgG prepared by affinity chromatography on immobilized human collagen type IV |
| <b>Buffer Solution</b> | 0.1M Sodium Chloride<br>0.01M Sodium Phosphate<br>0.01M Sodium Borate                  |

**Preservative** 1% Mannitol  
**Stabilisers** 1% Dextran

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**Immunogen** Collagen type IV from human placenta.

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**External Database Links**

**UniProt:**

|                        |                                  |
|------------------------|----------------------------------|
| <a href="#">P02462</a> | <a href="#">Related reagents</a> |
| <a href="#">P08572</a> | <a href="#">Related reagents</a> |
| <a href="#">Q01955</a> | <a href="#">Related reagents</a> |
| <a href="#">P53420</a> | <a href="#">Related reagents</a> |
| <a href="#">P29400</a> | <a href="#">Related reagents</a> |
| <a href="#">Q14031</a> | <a href="#">Related reagents</a> |

**Entrez Gene:**

|                      |        |                                  |
|----------------------|--------|----------------------------------|
| <a href="#">1282</a> | COL4A1 | <a href="#">Related reagents</a> |
| <a href="#">1284</a> | COL4A2 | <a href="#">Related reagents</a> |
| <a href="#">1285</a> | COL4A3 | <a href="#">Related reagents</a> |
| <a href="#">1286</a> | COL4A4 | <a href="#">Related reagents</a> |
| <a href="#">1287</a> | COL4A5 | <a href="#">Related reagents</a> |
| <a href="#">1288</a> | COL4A6 | <a href="#">Related reagents</a> |

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**RRID** AB\_2082644

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**Specificity**

**Rabbit anti Human collagen IV antibody** recognizes human collagen IV, also known as Collagen alpha-1(IV) chain. Collagen IV is a 1497 amino acid structural extracellular matrix protein and key component of the glomerular basement membrane. Arresten, comprising the c-terminal 225 amino acids of collagen IV demonstrates potent anti tumorigenic and anti angiogenic properties ([Nyberg et al. 2008](#)). Rabbit anti Human collagen IV antibody exhibits the following reactivities with Collagen IV and related proteins:

|                          |       |
|--------------------------|-------|
| Human collagen IV        | 100%  |
| Human types I, III and V | < 10% |
| Human collagen II        | <1%   |

Human plasma proteins do not interfere with collagen binding.

Defects in the COL4A1 gene encoding collagen 4 can lead to the presentation of a variety of conditions including Brain small vessel disease with or without ocular anomalies ([BSVD](#)), demonstrating weakened brain blood vessels and retinal arteriolar tortuosity ([Shah et al. 2010](#)). Hereditary angiopathy with nephropathy aneurysms and muscle cramps ([HANAC](#)), characterized by large renal cysts and hematuria ([Plaisier et al. 2010](#)). Porencephaly 1 ([POREN1](#)), a neurologic disease characterized by fluid filled cysts within the cerebral hemispheres, visual defect and facial paresis ([Gould et al. 2005](#)). Schizencephaly ([SCHZC](#)) presenting with full thickness cleft within the cerebral hemispheres, some of the hemispheres may also be absent, replaced by cerebrospinal

fluid ([Yoneda et al. 2013](#)). Other conditions resulting from mutations in the COL4A1 gene also exist presenting with some of the features described for the above conditions.

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## References

1. Jones, E.A.V. *et al.* (2008) Separating genetic and hemodynamic defects in neuropilin 1 knockout embryos. [Development. 135: 2479-88.](#)
2. Powner, M.B. *et al.* (2010) Perifoveal müller cell depletion in a case of macular telangiectasia type 2. [Ophthalmology. 117: 2407-16.](#)
3. Reis, M. *et al.* (2012) Endothelial Wnt/ $\beta$ -catenin signaling inhibits glioma angiogenesis and normalizes tumor blood vessels by inducing PDGF-B expression. [J Exp Med. 209: 1611-27.](#)
4. Dunér, P. *et al.* (2015) Increased aldehyde-modification of collagen type IV in symptomatic plaques - A possible cause of endothelial dysfunction. [Atherosclerosis. 240 \(1\): 26-32.](#)
5. Powner, M.B. *et al.* (2016) Evaluation of Nonperfused Retinal Vessels in Ischemic Retinopathy. [Invest Ophthalmol Vis Sci. 57 \(11\): 5031-7.](#)

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## Storage

Store at -20°C only.  
Storage in frost-free freezers is not recommended.  
Avoid repeated freezing and thawing as this may denature the antibody.

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## Guarantee

Guaranteed until date of expiry. Please see product label.

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## Health And Safety Information

Material Safety Datasheet documentation #20482 available at:  
<https://www.bio-rad-antibodies.com/SDS/2150-0140>  
20482

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## Regulatory

For research purposes only

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## Related Products

### Recommended Secondary Antibodies

Goat Anti Rabbit IgG (Fc) (STAR121...) [Biotin](#), [FITC](#), [HRP](#)

Sheep Anti Rabbit IgG (STAR35...) [RPE](#)

Goat Anti Rabbit IgG (H/L) (STAR124...) [HRP](#)

### Recommended Useful Reagents

[ANTIGEN RETRIEVAL BUFFER, pH8.0 \(BUF025A\)](#)

**North & South** Tel: +1 800 265 7376

**America** Fax: +1 919 878 3751

Email: [antibody\\_sales\\_us@bio-rad.com](mailto:antibody_sales_us@bio-rad.com)

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To find a batch/lot specific datasheet for this product, please use our online search tool at: [bio-rad-antibodies.com/datasheets](https://www.bio-rad-antibodies.com/datasheets)

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