

Datasheet: 2150-0140

**BATCH NUMBER 157406**

<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	▪			1/1.5K - 1/6K
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 - lyophilised
<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>	0.15M Sodium Chloride 0.01M Sodium Phosphate
<b>Preservative</b>	1% Mannitol

**Stabilisers** 1% Dextran

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

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**External Database Links**

**UniProt:**

[P02462](#) [Related reagents](#)  
[P08572](#) [Related reagents](#)  
[Q01955](#) [Related reagents](#)  
[P53420](#) [Related reagents](#)  
[P29400](#) [Related reagents](#)  
[Q14031](#) [Related reagents](#)

**Entrez Gene:**

[1282](#) COL4A1 [Related reagents](#)  
[1284](#) COL4A2 [Related reagents](#)  
[1285](#) COL4A3 [Related reagents](#)  
[1286](#) COL4A4 [Related reagents](#)  
[1287](#) COL4A5 [Related reagents](#)  
[1288](#) COL4A6 [Related reagents](#)

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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. Cunningham, K. *et al.* (2011) Conditional deletion of Ccm2 causes hemorrhage in the adult brain: a mouse model of human cerebral cavernous malformations. [Hum Mol Genet. 20: 3198-206.](#)
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. Powner, M.B. *et al.* (2010) Perifoveal müller cell depletion in a case of macular telangiectasia type 2. [Ophthalmology. 117: 2407-16.](#)
5. 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.](#)
6. 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 #20472 available at:  
<https://www.bio-rad-antibodies.com/SDS/2150-0140>  
20472

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## Regulatory

For research purposes only

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## Related Products

### Recommended Secondary Antibodies

- Sheep Anti Rabbit IgG (STAR34...) [FITC](#)  
Goat Anti Rabbit IgG (H/L) (STAR124...) [HRP](#)  
Sheep Anti Rabbit IgG (STAR35...) [RPE](#)  
Goat Anti Rabbit IgG (Fc) (STAR121...) [Biotin](#), [FITC](#), [HRP](#)

### Recommended Useful Reagents

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

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

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

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