

## Polyclonal Antibody to Collagen type IV - Aff - Purified

<b>Alternate names:</b>	COL4A1
<b>Catalog No.:</b>	R1041X
<b>Quantity:</b>	0.5 mg
<b>Concentration:</b>	1.0 mg/ml (by UV absorbance at 280 nm)
<b>Background:</b>	<p>Collagens are highly conserved throughout evolution and are characterized by an uninterrupted "Glycine-X-Y" triplet repeat that is a necessary part of the triple helical structure. For these reasons it is often extremely difficult to generate antibodies with specificities to collagens. The development of type specific antibodies is dependent on NON-DENATURED three-dimensional epitopes. Collagens were extensively purified for immunization from human and bovine placenta and cartilage by limited pepsin digestion and selective salt precipitation. This preparation results in a native conformation of the protein. Antibodies are isolated from rabbit antiserum and are extensively cross-adsorbed by immunoaffinity purification to produce 'type' specific antibodies. Greatly diminished reactivity and selectivity of these antibodies will result if denaturing and reducing conditions of SDS-PAGE and immunoblotting are used.</p>
<b>Uniprot ID:</b>	<a href="#">P02462</a>
<b>NCBI:</b>	<a href="#">9606</a>
<b>Host:</b>	Rabbit
<b>Immunogen:</b>	Collagen type IV purified from Human and Bovine placenta.
<b>Format:</b>	<p><b>State:</b> Liquid (sterile filtered) purified Ig fraction. <b>Purification:</b> Immunoaffinity Chromatography. <b>Buffer System:</b> 0.1 M Sodium Borate, 0.075M Sodium Chloride, 0.005M EDTA, pH 8.0 <b>Preservatives:</b> 0.01% Sodium Azide</p>
<b>Applications:</b>	<p>Anti-Collagen antibodies have been used for indirect trapping ELISA for quantitation of antigen in serum using a standard curve, for Immunoprecipitation and for native (non-denaturing, non-dissociating) PAGE and Western blotting for highly sensitive qualitative analysis.</p> <p><b>Recommended Dilutions:</b> ELISA: 1/5,000-1/50,000. Western blot: 1/1000-1/10,000. Immunoprecipitation: 1/100. Immunohistochemistry: 1/50-1/200.</p> <p><b>Note:</b> This product was assayed by Immunoblot and found to be reactive against Collagen IV at a dilution of 1/5,000-1/10,000. This product was also assayed against 1.0 µg of Collagen IV in a standard sandwich ELISA using Peroxidase conjugated Affinity Purified anti-Rabbit IgG [H&amp;L] (Goat) (Cat#R1364HRP) and (ABTS (2,2'-azino-bis-[3-ethylbenthiazoline-6-sulfonic acid]) as a substrate for 30</p>

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minutes at room temperature. A working dilution of 1/4,000-1/8,000 of the stock concentration is suggested for this assay.

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

**Specificity:**

This product has been prepared by Immunoaffinity Chromatography using immobilized antigens followed by extensive cross-adsorption against other collagens, human serum proteins and non-collagen extracellular matrix proteins to remove any unwanted specificities.

Typically less than 1% cross reactivity against other types of collagens was detected by ELISA against purified standards.

Some class specific anti-collagens may be specific for three-dimensional epitopes which may result in diminished reactivity with denatured collagen or formalin-fixed, paraffin embedded tissues. This antibody reacts with most mammalian Type IV collagens and has negligible cross-reactivity with Type I, II, III, V or VI collagens. Non-specific cross reaction of anti-collagen antibodies with other human serum proteins or non-collagen extracellular matrix proteins is negligible.

**Species:** Human and Bovine.

Other species not tested.

**Storage:**

Store the antibody undiluted for one month at 2-8°C or (mix with an equal volume of Glycerol) at -20°C for longer.

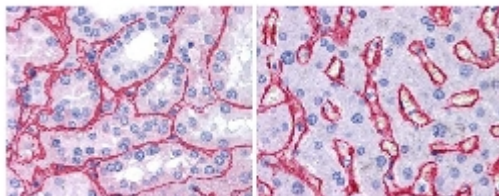
Avoid cycles of freezing and thawing.

Dilute only prior to immediate use.

Shelf life: one year from despatch.

**Product Citation:**

1. Philipp Sasse, Daniela Malan, Michaela Fleischmann, Wilhelm Roell, Erika Gustafsson, Toktam Bostani, Yun Fan, Thomas Kolbe, Martin Breitbach, Klaus Addicks, Armin Welz, Gottfried Brem, Jürgen Hescheler, Attila Aszodi, Mercedes Costell, Wilhelm Bloch, and Bernd K. Fleischmann. Perlecan is critical for heart stability. *Cardiovasc Res*, Dec 2008; 80: 435-444.
2. Daniel Timo Behrens, Daniela Villone, Manuel Koch, Georg Brunner, Lydia Sorokin, Horst Robenek, Leena Bruckner-Tuderman, Peter Bruckner, and Uwe Hansen: The Epidermal Basement Membrane Is a Composite of Separate Laminin- or Collagen IV-containing Networks Connected by Aggregated Perlecan, but Not by Nidogens; *J. Biol. Chem.*, May 2012; 287: 18700-18709.

**Pictures:**

R1041 Collagen IV antibody (Lot 25440, 1/400, 45 min RT) showed strong staining in FFPE sections of Human kidney (Left) with strong Red staining observed in glomeruli and liver (Right) with strong staining in sinusoids. Staining for both tissues was consistent with a basement membrane distribution. Slides were steamed in 0.01 M sodium citrate buffer, pH 6.0 at 99-100°C - 20 minutes for antigen retrieval. Images provided courtesy of LifeSpan Biosciences, Seattle, WA

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