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Polyclonal Antibody to Collagen type IV - Biotin

Alternate names: COL4A1

Catalog No.: R1041B

Quantity: 0.1 mg

Concentration: 1.0 mg/ml (by UV absorbance at 280 nm)

Background: Collagen IV is a major constituent of the basement membranes along with laminins, proteoglycans and enactins. It is a multimeric protein composed of 3 alpha subunits. These subunits are encoded by 6 different genes, alpha 1 through alpha 6, each of which can form a triple helix structure with 2 other subunits to form type IV collagen. It can form insoluble fibers with high tensile strength. Collagen IV is useful in detecting the loss of parts of basement membranes in carcinomas.

Uniprot ID: P02462

NCBI: 9606

Host: Rabbit

Immunogen: Collagen Type IV from human and bovine placenta.

Format:
State: Liquid (sterile filtered) purified Ig fraction.
Purification: Immunoaffinity chromatography.
Buffer System: 0.125M Sodium Borate, 0.075M Sodium Chloride, 0.005M EDTA, pH 8.0 with 10 mg/ml BSA (Ig and Protease Free) as stabilizer and 0.01% (w/v) Sodium Azide as preservative.
Label: Biotin – Biotinamidocaproate N-Hydroxysuccinimide Ester (BAC)
Molar Ratio: 10-20 BAC molecules per Rabbit IgG molecule

Applications: Suitable for indirect trapping ELISA for quantitation of antigen in serum using a standard curve, for immunoprecipitation and for western blotting for highly sensitive qualitative analysis.
Recommended Dilution(s): This product was assayed by immunoblot and found to be reactive against Collagen IV at a dilution of 1:5,000 to 1:10,000. This product was also assayed against 1.0 ug of Collagen IV in a standard sandwich ELISA using Peroxidase Conjugated Streptavidin and ABTS (2,2'-azino-bis-[3-ethylbenthiazoline-6-sulfonic acid]) as a substrate for 30 minutes at room temperature. A working dilution of 1:4,000 to 1:8,000 of the stock concentration is suggested for this product.
For Immunohistochemistry on frozen tissue sections dilute the product 1:50 to 1:200.
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 and VI collagens. Non-specific cross-reaction of anti-collagen antibodies with other human serum proteins or non-collagen extracellular matrix proteins is negligible.

Storage:

Store vial at -20°C prior to opening.
For extended storage aliquot contents and freeze at -20°C or below.
Dilute only prior to immediate use
Avoid cycles of freezing and thawing.
Shelf life: one year from despatch.

Product Citation:

Unconjugated antibody is cited in:
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.