

Polyclonal Antibody to Collagen type I - Biotin

Alternate names:	Alpha-1 type I collagen, Alpha-2 type I collagen, COL1A1, COL1A2
Catalog No.:	R1038B
Quantity:	0.1 mg
Concentration:	1.0 mg/ml (by UV absorbance at 280 nm)
Background:	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 for immunization from human and bovine placenta and cartilage have been extensively purified 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 are used for SDS PAGE and immunoblotting.
Uniprot ID:	P02452
NCBI:	NP_000079
GeneID:	1277
Host:	Rabbit
Immunogen:	Collagen Type I from human and bovine placenta.
Format:	State: Lyophilized purified IgG fraction Purification: Immunoaffinity Chromatography. Buffer System: 0.125M Sodium Borate, 0.075M Sodium Chloride, 0.005M EDTA, pH 8.0, containing 0.01% (w/v) Sodium Azide Label: Biotin – Biotinamidocaproate N-Hydroxysuccinimide Ester (BAC) <i>Molar Ratio:</i> 10-20 BAC molecules per Rabbit IgG molecule Reconstitution: Restore with 0.1 ml of deionized water (or equivalent).
Applications:	Anti-Collagen antibodies have been used 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 Dilutions: ELISA: 1/3,000-1/6,000. Western blot: 1/3,000-1/6,000. Immunoprecipitation: 1/100. Immunohistochemistry: 1/50-1/200.

For research and in vitro use only. Not for diagnostic or therapeutic work.

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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 I collagens and has negligible cross-reactivity with Type II, III, IV, 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.

Species: Human, Bovine, Mouse and Rat.

Other species not tested.

Storage:

Store vial at 2-8°C prior to restoration. Restore with deionized water or equivalent; centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 2-8°C as an undiluted liquid.

For extended storage mix with an equal volume of glycerol, aliquot contents and freeze at -20°C or below. Avoid cycles of freezing and thawing.

Dilute only prior to immediate use.

Shelf life: one year from despatch.

Product Citation:

Unconjugated antibody is cited in:

1. Daniela Villone, Anja Fritsch, Manuel Koch, Leena Bruckner-Tuderman, Uwe Hansen, and Peter Bruckner *Supramolecular Interactions in the Dermo-epidermal Junction Zone: ANCHORING FIBRIL-COLLAGEN VII TIGHTLY BINDS TO BANDED COLLAGEN FIBRILS* J. Biol. Chem., Sep 2008; 283: 24506 - 24513.

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.

General References: 1. Hashimoto, N. et al. (2004) Bone marrow-derived progenitor cells in pulmonary fibrosis. J. Clin. Invest. 113:243-252.

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