

# Anti-Collagen I $\alpha$ 1 Propeptide Sequence Antibody



**PhosphoSolutions®**

Antibodies that work™

www.phosphosolutions.com  
orders@phosphosolutions.com  
888-442-7100

**Catalog#:** 321-COLP

**Size:** 100  $\mu$ l

**Cite this Antibody:** PhosphoSolutions Cat# 321-COLP, RRID:AB\_2492060

Host	Applications	Species Tested	Species Reactivity*	Molecular Weight
Rabbit	WB 1:1000 IHC 1:100	H, M, R	Amp, Av, Most Mammals	~180 kDa

**Product Description:** Affinity purified rabbit polyclonal antibody.

**Biological Significance:** Collagen is an extracellular matrix protein that serves as a scaffold defining the shape and mechanical properties of many tissues and organs including skin, tendon, artery walls, fibrocartilage, bone and teeth. Type 1 collagen is the most abundant protein in mammals. Collagens are synthesized with N-terminal and C-terminal propeptides that are cleaved during maturation and secretion. After cleavage of the propeptides, the most N-terminal and C-terminal remaining sequences are known as telopeptides. Mutations in the collagen 1, alpha 1 gene (COL1A1) are known to cause osteogenesis imperfecta (aka brittle bone disease) (Byers 1989). Furthermore, mutations found in the first 90 residues of the helical region of alpha 1 collagen have been implicated in the prevention or delayed removal of the procollagen N-propeptide leading to a combined osteogenesis imperfecta and Ehlers-Danlos syndrome (EDS) phenotype (Cabral et al., 2005).

**Antigen:** Peptide from the human collagen I  $\alpha$ 1 propeptide sequence.

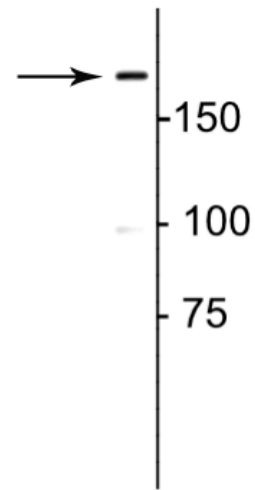
**Antibody Specificity:** Specific for endogenous levels of the propeptide portion of the ~180 kDa collagen I  $\alpha$ 1 polypeptide in human lung fibroblast extract. The antibody also works well for immunohistochemistry on paraformaldehyde-fixed sections with a simple antigen-retrieval protocol (incubate slides for 20 minutes at 90° C in 10 mM sodium citrate (pH 6.0)/ 0.1 % Tween-20). Note that in paraffin sections of formaldehyde-fixed fibrotic mouse lung tissue, the antibody recognizes collagen I molecules that are still associated with the cells in which they were synthesized.

**Purification Method:** Affinity purified rabbit serum.

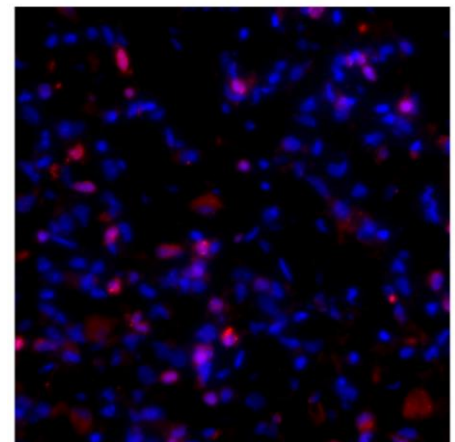
**Quality Control Tests:** Western blots performed on each lot.

**Packaging:** 100  $\mu$ l in PBS.

**Storage and Stability:** Shipped on blue ice. Recommended that the antibody be aliquoted into smaller working volumes (10-30  $\mu$ l/vial depending on usage) upon arrival and stored long term at -20° C or -80° C, while keeping a working aliquot stored at 4° C for short term. Avoid freeze/thaw cycles. Stable for at least 1 year.



Western blot of rat lung lysate showing specific immunolabeling of the ~180 kDa collagen 1.



Immunostaining of fibrotic mouse lung tissue showing specific staining of collagen I molecules (Cat # 321-COLP, 1:100, red) that are still associated with the cells in which they were synthesized.

### Product Specific References:

Reese C, Lee R, Bonner M, Perry B, Heywood J, Silver RM, Tourkina E, Visconti RP, Hoffman S. (2014) Fibrocytes in the fibrotic lung: altered phenotype detected by flow cytometry. *Front Pharmacol.* 2014 Jun 16;5:141.

### General References:

Byers PH (1989) Inherited disorders of collagen gene structure and expression. *Am J Med Genet.* 34(1):72-80.

Cabral WA, Makareeva E, Colige A, Letocha AD, Ty JM, Yeowell HN, Pals G, Leikin S, Marini JC. (2005) Mutations near amino end of alpha1(I) collagen cause combined osteogenesis imperfecta/Ehlers-Danlos syndrome by interference with N-propeptide processing. *J Biol Chem.* 2005 May 13;280(19):19259-69.

**Application Key:** **WB** = Western Blot **IF** = Immunofluorescence **IHC** = Immunohistochemistry **IP** = Immunoprecipitation

**Species Reactivity Key:** **All**-All Species **A**-Avian **Amp**-Amphibian **Ar**-*Arabidopsis* **B**-Bovine **C**-Canine **Ch**-Chicken **D**-*Drosophila*  
**GP**-Guinea Pig **H**-Human **Ha**-Hamster **M**-Mouse **NHP**- Non-human primate **P**-Pig **R**-Rat **S**-Sheep **X**-*Xenopus* **Z**-Zebrafish

\*Species assumed based on 100% homology with sequence used as antigen

**For Research Use Only**