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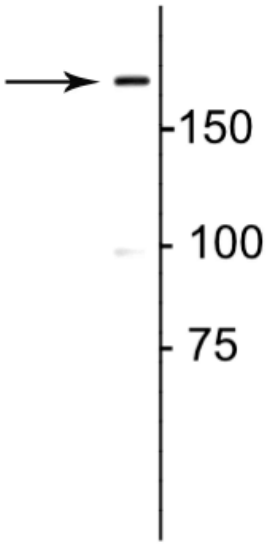
Product Datasheet

Anti-Collagen 1, alpha 1 propeptide

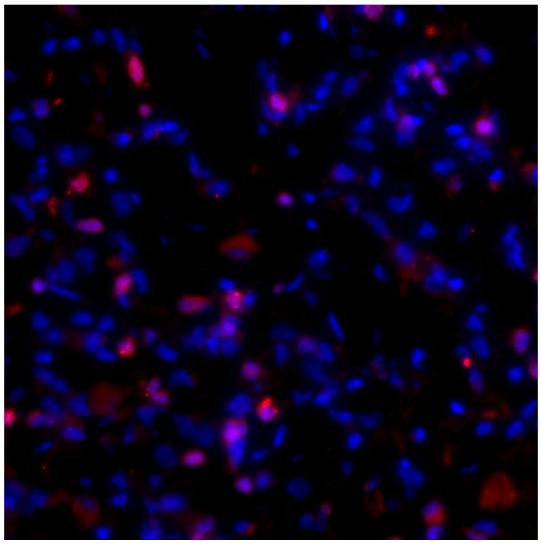
Overview

Catalog #	321-COLP
Host Species	Rabbit Polyclonal
Format	Antigen Affinity Purified
Applications	WB 1:1000 IHC 1:100
Species Tested	Human, Mouse, Rat
Expected Reactivity	Bovine, Canine, Chicken, Feline, Finch, Goat, Guinea Pig, Hamster, Horse, Non-Human Primate, Rabbit, Sheep, Vole, *Xenopus*
Immunogen	Synthetic peptide corresponding to amino acid residues specific to the human collagen 1, alpha 1 propeptide conjugated to keyhole limpet hemocyanin (KLH).
Molecular Weight	180 kDa
Cite this Antibody	PhosphoSolutions Cat# 321-COLP, RRID:AB_2492060

Images



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.

Details

Target Description	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).
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.
Production/Purification	Affinity purified rabbit serum.
Quality Control	Western blots performed on each lot.
Buffer	PBS
Storage	Recommended that the undiluted antibody be aliquoted into smaller working volumes (10-30 µL/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.
Stability	After date of receipt, stable for at least 1 year at -20°C.

Significant Citations

Konkimalla, A., Konishi, S., Macadlo, L., Kobayashi, Y., Farino, Z.J., Miyashita, N., El Haddad, L., Morowitz, J., Barkauskas, C.E., Agarwal, P. and Souma, T., 2023. Transitional cell states sculpt tissue topology during lung regeneration. Cell Stem Cell, 30(11), pp.1486-1502.

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.

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