

# Collagen I al Telopeptide Sequence Antibody

Rabbit polyclonal antibody Catalog # AN1184

# **Specification**

# Collagen I al Telopeptide Sequence Antibody - Product Information

Application WB, IHC Primary Accession P02452

Reactivity Human, Mouse

Host Rabbit Clonality polyclonal Calculated MW 140 KDa

# Collagen I al Telopeptide Sequence Antibody - Additional Information

Gene ID 1277
Gene Name COL1A1

**Other Names** 

Collagen alpha-1(I) chain, Alpha-1 type I collagen, COL1A1

# Target/Specificity

Synthetic peptide corresponding to amino acid residues specific to the collagen 1, alpha 1 telopeptide conjugated to KLH.

### **Dilution**

WB~~ 1:1000 IHC~~ 1:100

#### **Format**

Affinity purified

# **Antibody Specificity**

Specific for the  $\sim 140$  kDa telopeptide portion of the collagen I  $\alpha$ 1polypeptide. The antibody works well for immunohistochemistry on paraformaldehyde-fixed sections with a simple antigen-retrieval protocol (incubate slides for 20 minutes at  $90^{\circ}$  C in 10mM sodium citrate (pH 6.0)/ 0.1 % Tween-20). Note that in paraffin sections of formaldehydefixed fibrotic mouse lung tissue, the antibody recognizes mature collagen I that has formed fibrils in the extracellular matrix.

#### Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

# **Precautions**

Collagen I  $\alpha 1$  Telopeptide Sequence Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

#### Shipping

Blue Ice

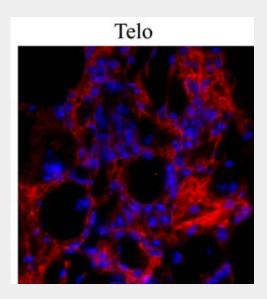


# Collagen I al Telopeptide Sequence Antibody - Protocols

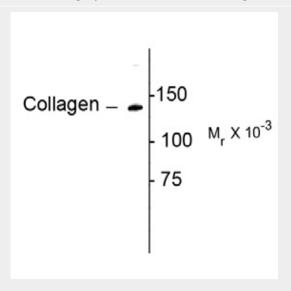
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- <u>Immunohistochemistry</u>
- <u>Immunofluorescence</u>
- <u>Immunoprecipitation</u>
- Flow Cytomety
- Cell Culture

# Collagen I al Telopeptide Sequence Antibody - Images



Western blot of rat lung lysate showing specific immunolabeling of the ~ 140k collagen protein.



Immunostaining of formaldehyde-fixed fibrotic mouse lung tissue. The antibody recognizes mature collagen I (red) that has formed fibrils in the extracellular matrix.

Collagen I al Telopeptide Sequence Antibody - Background







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 must 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 fist 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).

# Collagen I al Telopeptide Sequence Antibody - 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 IC. (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.