

Datasheet for 600-401-D20**Collagen I alpha 1 telopeptide Antibody****Overview**

Description:	Anti-Collagen I, alpha 1 telopeptide (RABBIT) Antibody - 600-401-D20
Item No.:	600-401-D20
Size:	100 µL
Applications:	IHC, WB, ELISA, IF
Reactivity:	Human, Mouse, Rat, Sheep
Host Species:	Rabbit

Product Details

Background: Collagen I alpha 1 telopeptide Antibody detects collagen I which 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). 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. Anti-Collagen I alpha 1 telopeptide Antibody is ideal for investigators involved in Cell Signaling, Neuroscience, Signal Transduction research.

Synonyms:	Alpha-1 type I collagen, COLA1A1
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	COL1A1
Reactivity:	Human, Mouse, Rat, Sheep

Immunogen Type:	Conjugated Peptide
Immunogen:	Anti-Collagen-1 alpha 1 telopeptide Antibody was produced in rabbit by repeated immunizations with a proprietary peptide immunogen corresponding to collagen-1 alpha 1 telopeptide (C-terminal region).
Purity/Specificity:	Anti-Collagen I alpha 1 telopeptide antibody is directed against the ~ 140 kDa telopeptide portion of the collagen I α 1 polypeptide (C-terminus). Anti-Collagen I alpha 1 telopeptide antibody was affinity purified from monospecific antiserum by immunoaffinity purification. Anti-Collagen I alpha 1 telopeptide antibody recognizes Collagen I alpha 1 telopeptide from human, mouse, rat, and sheep sources. Cross reactivity with Collagen I alpha 1 telopeptide from other species has not been determined, however, reactivity is also expected from most vertebrate species based on very high sequence homology. Anti-Collagen-1 alpha 1 telopeptide Antibody is ideal for investigators involved in Cell Signaling, Cell migration and Cancer Research.
Relevant Links:	NCBI - NP_000079.2 GenelD - 1277 UniProtKB - P02452.5

Application Details

Tested Applications:	IHC, WB
Suggested Applications:	ELISA, IF (Based on references)
Application Note:	Anti-Collagen 1 alpha 1 telopeptide Antibody is tested for use in ELISA, Western Blotting and IHC. The antibody works well for IHC 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 mature collagen I that has formed fibrils in the extracellular matrix. For Western blot with appropriately prepared samples expect a band of approximately 140 kDa in size corresponding to the telopeptide portion (C-terminus) of the collagen I alpha I polypeptide. Specific conditions for reactivity should be optimized by the end user.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:10,000
IHC:	1:100
IP:	1:100
WB:	1:1,000

Formulation

Physical State:	Liquid
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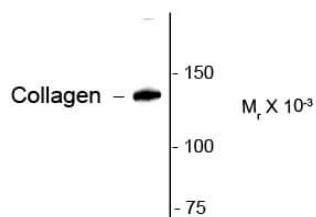
Concentration:	n/a Each Sufficient to run approximately 10 miniblots
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	None
Stabilizer:	None

Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C prior to opening. This product is stable at 4° C as an undiluted liquid. For extended storage, aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

Images

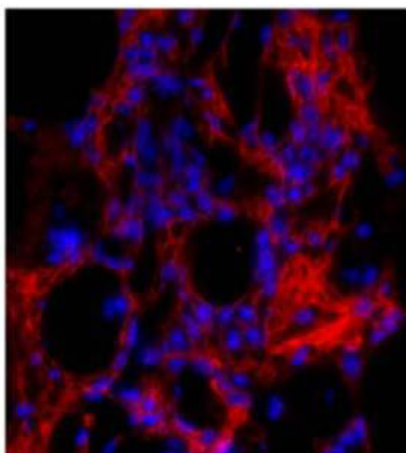
Anti-Collagen I α 1, telopeptide



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

Western Blot

Western Blot of Anti-Collagen 1, alpha 1 telopeptide (Rabbit) Antibody. Lane 1: rat lung lysate. Lane 2: none. Load: 10 μ g per lane. Primary antibody: Collagen 1 antibody at 1:400 for overnight at 4°C. Secondary antibody: IRDye800™ rabbit secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C. Predicted/Observed size: ~ 140kDa/~140kDa for collagen protein. Other band(s): none.



Immunohistochemistry

Immunohistochemistry of Rabbit Anti-Collagen 1, alpha 1 telopeptide Antibody. Tissue: mouse lung tissue. Fixation: formalin fixed paraffin embedded. Antigen retrieval: not required. Primary antibody: collagen I antibody at 10 µg/mL for 1 h at RT. Secondary antibody: Peroxidase rabbit secondary antibody at 1:10,000 for 45 min at RT. Localization: collagen I is extracellular. Staining: mature collagen I (red) that has formed fibrils with hematoxylin purple nuclear counterstain.

References

- Palano G et al. A high-content, in vitro cardiac fibrosis assay for high-throughput, phenotypic identification of compounds with anti-fibrotic activity. *J Mol Cell Cardiol.* (2020)

Disclaimer

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