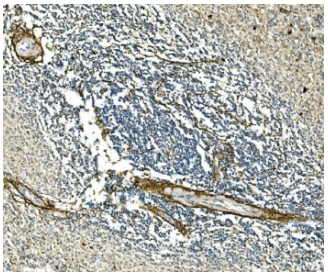
COL1A1 Antibody / Collagen I (R31257)

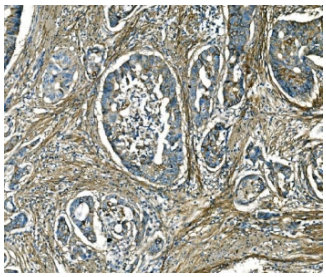
Catalog No.	Formulation	Size
R31257	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

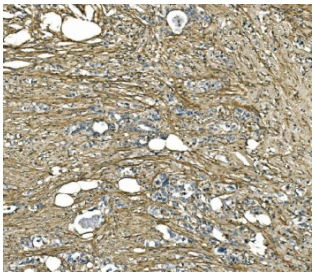
Availability	1-3 business days
Species Reactivity	Human, Mouse
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P02452
Localization	Cytoplasmic
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml
Limitations	This COL1A1 antibody is available for research use only.



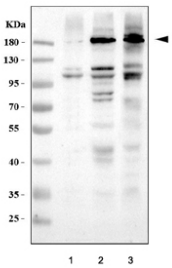
COL1A1 Antibody Human Spleen IHC. IHC staining of FFPE human spleen tissue with COL1A1 antibody demonstrated strong extracellular staining of connective tissue structures, vascular walls, and stromal matrix components, consistent with the distribution of type I collagen within splenic supporting tissues. COL1A1 encodes the alpha-1 chain of type I collagen, the principal fibrillar collagen responsible for providing tensile strength and structural integrity to connective tissues. The staining pattern highlights extracellular matrix-rich regions that contribute to splenic architecture and tissue organization. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 8 EDTA buffer for 20 minutes and allowing them to cool before immunostaining. These results support the utility of COL1A1 Antibody for studies of extracellular matrix biology, connective tissue organization, fibrosis, and tissue remodeling.



IHC staining of FFPE human colon adenocarcinoma tissue with COL1A1 antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



COL1A1 Antibody Human Gastric Carcinoma IHC. IHC staining of FFPE human gastric carcinoma tissue with COL1A1 antibody demonstrated strong extracellular staining throughout the tumor-associated stroma, consistent with the distribution of type I collagen within desmoplastic connective tissue. COL1A1 encodes the alpha-1 chain of type I collagen, a major fibrillar extracellular matrix protein that provides structural support and regulates cell-matrix interactions. The extensive stromal staining observed surrounding malignant glands is consistent with extracellular matrix remodeling and collagen deposition frequently associated with gastric carcinoma progression. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 8 EDTA buffer for 20 minutes and allowing them to cool before immunostaining. These results support the utility of COL1A1 Antibody for studies of extracellular matrix biology, tumor stroma formation, fibrosis, and cancer-associated tissue remodeling.



COL1A1 Antibody Human and Mouse Cell Lines WB. Western blot analysis of COL1A1 expression was performed using anti-COL1A1 antibody in human HK2, human HCC, and mouse NIH 3T3 cell lysates. COL1A1 encodes the alpha-1 chain of type I collagen, the major fibrillar collagen responsible for providing structural support and tensile strength to connective tissues. Lane 1: human HK2 lysate. Lane 2: human HCC lysate. Lane 3: mouse NIH 3T3 lysate. Prominent immunoreactive bands are detected between approximately 140-210 kDa, corresponding to precursor forms of COL1A1, with additional bands observed in the expected mature collagen range of approximately 70-90 kDa. Strong expression in fibroblast-derived NIH 3T3 cells and human cell lines is consistent with the established role of type I collagen in extracellular matrix production and tissue remodeling. These results support the utility of COL1A1 Antibody for studies of extracellular matrix biology, fibrosis, connective tissue development, and tumor-associated stromal remodeling.

Description

Collagen type I alpha 1, also known as COL1A1, is a human gene that encodes the major component of type I collagen, the fibrillar collagen found in most connective tissues, including cartilage. Type I is a fibril-forming collagen found in most connective tissues and is abundant in bone, cornea, dermis and tendon.

Explore our Collagen I Antibody / Extracellular Matrix Protein Antibody page to learn more about type I collagen and its roles in connective tissue formation, extracellular matrix organization, and tissue remodeling.

Application Notes

The stated application concentrations are suggested starting amounts. Titration of the COL1A1 antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

An amino acid sequence from the C-terminus of human Collagen I (QPPQEKAHDGGRYYRA) was used as the immunogen for this COL1A1 antibody.

Storage

After reconstitution, the COL1A1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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