

**COL1A1 Antibody**

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**For Research Use Only. Not for Use in Diagnostic Procedures.**

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M R	Endogenous	220	Rabbit	#P02452	1277

**Product Usage Information****Application**

Western Blotting  
Immunoprecipitation

**Dilution**

1:1000  
1:100

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

**Specificity/Sensitivity**

COL1A1 Antibody recognizes endogenous levels of total COL1A1 protein.

**Source / Purification**

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Phe1197 of human COL1A1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

**Background**

Type 1 collagen is the most abundant collagen in many human tissues, including bone, skin, and tendons. It is a trimeric complex composed of two molecules of COL1A1 (alpha-1 type 1 collagen) and one molecule of COL1A2 (alpha-2 type 1 collagen) (1-3). The expression levels of COL1A1 are regulated by multiple mechanisms, including mRNA stability, translation, and post-translational modification (3-5). Overexpression of COL1A1 has been positively associated with tissue fibrosis disorders, including systemic sclerosis (6), while loss-of-function mutations in the *COL1A1* gene are a major causative factor for osteogenesis imperfecta (brittle bone disease) (7). Notably, COL1A1 expression levels have also been associated with tumor development in gastric, lung, thyroid, and breast cancers. Research studies suggest that upregulation of COL1A1 can generate a modified extracellular matrix environment that promotes cancer cell survival, proliferation, metastasis, and invasion (8-11).

**Background References**

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3. Zhang, Y. and Stefanovic, B. (2016) *Int J Mol Sci* 17, 419.
4. Parsons, C.J. et al. (2011) *J Biol Chem* 286, 8609-19.
5. Cai, L. et al. (2010) *J Mol Biol* 395, 309-26.
6. Jimenez, S.A. and Saitta, B. (1999) *Springer Semin Immunopathol* 21, 397-414.
7. Forlino, A. et al. (2011) *Nat Rev Endocrinol* 7, 540-57.
8. Li, J. et al. (2016) *World J Surg Oncol* 14, 297.
9. Oleksiewicz, U. et al. (2017) *J Cancer Res Clin Oncol* 143, 1133-41.
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11. Jolly, L.A. et al. (2016) *Cancer Res* 76, 1804-13.

**Species Reactivity**

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Western Blot Buffer**

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting **IP:** Immunoprecipitation

**Cross-Reactivity Key**

**H:** Human **M:** Mouse **R:** Rat

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