

COL1A1 Antibody

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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

1. Prockop, D.J. and Kivirikko, K.I. (1995) *Annu Rev Biochem* 64, 403-34.
2. Chang, S.W. et al. (2012) *Biophys J* 102, 640-8.
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.
10. Barcus, C.E. et al. (2017) *Breast Cancer Res* 19, 9.
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

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's

terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.