

# Pro-COL3A1 (A-1): sc-166333

## BACKGROUND

The extensive family of COL gene products (collagens) is composed of several chain types, including fibril-forming interstitial collagens (types I, II, III and V) and basement membrane collagens (type IV), each type containing multiple isoforms. Collagens are fibrous, extracellular matrix proteins with high tensile strength and are the major components of connective tissue, such as tendons and cartilage. All collagens contain a triple helix domain and frequently show lateral self-association in order to form complex connective tissues. Several collagens also play a role in cell adhesion, important for maintaining normal tissue architecture and function.

## REFERENCES

1. Bellamy, G., et al. 1971. Evidence for procollagen, a biosynthetic precursors of collagen. *Proc. Natl. Acad. Sci. USA* 68: 1138-1142.
2. Church, R.L., et al. 1971. Collagen biosynthesis: synthesis and secretion of a high molecular weight collagen precursor (procollagen). *Proc. Natl. Acad. Sci. USA* 68: 2638-2642.
3. Bornstein, P., et al. 1972. Procollagen: conversion of the precursor to collagen by a neutral protease. *Science* 175: 544-546.
4. McCarthy, J.B., et al. 1996. Cell adhesion to collagenous matrices. *Biopolymers* 40: 371-381.

## CHROMOSOMAL LOCATION

Genetic locus: COL3A1 (human) mapping to 2q32.2; Col3a1 (mouse) mapping to 1 C1.1.

## SOURCE

Pro-COL3A1 (A-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 30-54 near the N-terminus of Procollagen  $\alpha$ 1 Type III of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>3</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Pro-COL3A1 (A-1) is available conjugated to agarose (sc-166333 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166333 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166333 PE), fluorescein (sc-166333 FITC), Alexa Fluor® 488 (sc-166333 AF488), Alexa Fluor® 546 (sc-166333 AF546), Alexa Fluor® 594 (sc-166333 AF594) or Alexa Fluor® 647 (sc-166333 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166333 AF680) or Alexa Fluor® 790 (sc-166333 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166333 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

Pro-COL3A1 (A-1) is recommended for detection of Procollagen  $\alpha$ 1 Type III of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Pro-COL3A1 (A-1) is also recommended for detection of Procollagen  $\alpha$ 1 Type III in additional species, including equine, canine, bovine and porcine.

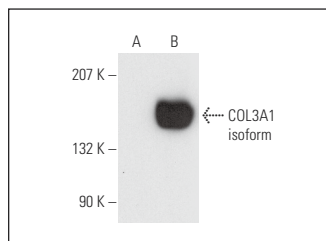
Suitable for use as control antibody for COL3A1 siRNA (h): sc-43062, COL3A1 siRNA (m): sc-43063, COL3A1 shRNA Plasmid (h): sc-43062-SH, COL3A1 shRNA Plasmid (m): sc-43063-SH, COL3A1 shRNA (h) Lentiviral Particles: sc-43062-V and COL3A1 shRNA (m) Lentiviral Particles: sc-43063-V.

Molecular Weight (predicted) of Pro-COL3A1: 140 kDa.

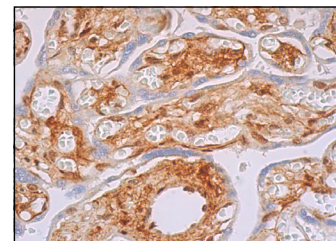
Molecular Weight (observed) of Pro-COL3A1: 215 kDa.

Positive Controls: COL3A1 (h): 293T Lysate: sc-114750 or CCD-1064Sk cell lysate: sc-2263.

## DATA



Pro-COL3A1 (A-1): sc-166333. Western blot analysis of COL3A1 expression in non-transfected: sc-117752 (A) and human COL3A1 isoform 2 transfected: sc-114750 (B) 293T whole cell lysates.



Pro-COL3A1 (A-1): sc-166333. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing extracellular matrix staining.

## SELECT PRODUCT CITATIONS

1. Lu, Y., et al. 2017. Correlations between mitofusin 2 expression in fibroblasts and pelvic organ prolapse: an *in vitro* study. *Chin. Med. J.* 130: 2951-2959.
2. Wang, X.Q., et al. 2020. Therapeutic effects of 17 $\beta$ -estradiol on pelvic organ prolapse by inhibiting Mfn2 expression: an *in vitro* study. *Front. Endocrinol.* 11: 586242.
3. Wang, X., et al. 2022. Treatment of pelvic organ prolapse by the down-regulation of the expression of mitofusin 2 in uterosacral ligament tissue via mesenchymal stem cells. *Genes* 13: 829.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.