

# COL5A1 (E-8): sc-166154

## 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 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. Bateman, J.F., et al. 1996. Collagen Superfamily. In Comper, W.D., ed., Extracellular Matrix, Vol. 2: Molecular Components and Interactions. Amsterdam: Harwood Academic Publishers, 22-67.
2. McCarthy, J.B., et al. 1996. Cell adhesion to collagenous matrices. Biopolymers 40: 371-381.
3. Engel, J. 1997. Versatile collagens in invertebrates. Science 277: 1785-1786.
4. Cremer, M.A., et al. 1998. The cartilage collagens: a review of their structure, organization and role in the pathogenesis of experimental arthritis in animals and in human rheumatic disease. J. Mol. Med. 76: 275-288.
5. Boskey, A.L., et al. 1999. Collagen and bone strength. J. Bone Miner. Res. 14: 330-335.
6. Alberio, L. and Dale, G.L. 1999. Platelet-collagen interactions: membrane receptors and intracellular signaling pathways. Eur. J. Clin. Invest. 29: 1066-1076.

## CHROMOSOMAL LOCATION

Genetic locus: COL5A1 (human) mapping to 9q34.3; Col5a1 (mouse) mapping to 2 A3.

## SOURCE

COL5A1 (E-8) is a mouse monoclonal antibody raised against amino acids 251-450 mapping within an extracellular domain of Collagen  $\alpha 1$  Type V of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## APPLICATIONS

COL5A1 (E-8) is recommended for detection of Collagen  $\alpha 1$  Type V 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for COL5A1 siRNA (h): sc-35083, COL5A1 siRNA (m): sc-35084, COL5A1 shRNA Plasmid (h): sc-35083-SH, COL5A1 shRNA Plasmid (m): sc-35084-SH, COL5A1 shRNA (h) Lentiviral Particles: sc-35083-V and COL5A1 shRNA (m) Lentiviral Particles: sc-35084-V.

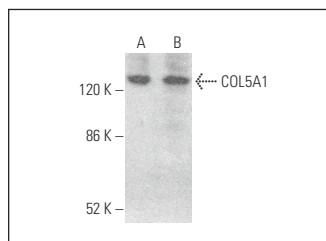
Molecular Weight of COL5A1 isoforms: 220/140 kDa.

Positive Controls: HUV-EC-C whole cell lysate: sc-364180, Hep G2 cell lysate: sc-2227 or HeLa nuclear extract: sc-2120.

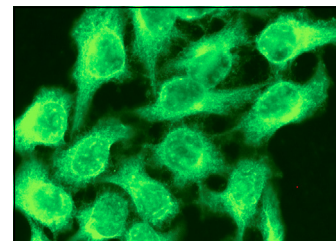
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



COL5A1 (E-8): sc-166154. Western blot analysis of COL5A1 expression in HUV-EC-C (A) and Hep G2 (B) whole cell lysates.



COL5A1 (E-8): sc-166154. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

## SELECT PRODUCT CITATIONS

1. Williams, C., et al. 2014. Young developmental age cardiac extracellular matrix promotes the expansion of neonatal cardiomyocytes *in vitro*. Acta Biomater. 10: 194-204.
2. Wang, H., et al. 2019. Priming integrin  $\alpha 5$  promotes human dental pulp stem cells odontogenic differentiation due to extracellular matrix deposition and amplified extracellular matrix-receptor activity. J. Cell. Physiol. 234: 12897-12909.

## RESEARCH USE

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