SANTA CRUZ BIOTECHNOLOGY, INC.

COL1A1 (H-197): sc-28657

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. 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.

CHROMOSOMAL LOCATION

Genetic locus: COL1A1 (human) mapping to 17q21.33.

SOURCE

COL1A1 (H-197) is a rabbit polyclonal antibody raised against amino acids 1021-1217 mapping within an internal region of Collagen α1 Type 1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

COL1A1 (H-197) is recommended for detection of Collagen α1 Type I of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

COL1A1 (H-197) is also recommended for detection of Collagen α1 Type I in additional species, including canine, bovine and avian.

Suitable for use as control antibody for COL1A1 siRNA (h): sc-44041, COL1A1 shRNA Plasmid (h): sc-44041-SH and COL1A1 shRNA (h) Lentiviral Particles: sc-44041-V.

Molecular Weight of COL1A1 precursor: 140-210 kDa.

Molecular Weight of mature COL1A1: 70-90 kDa.

Positive Controls: FHs 173We cell lysate: sc-2417, CCD-1064Sk cell lysate: sc-2263 or HOS cell lysate: sc-2275.

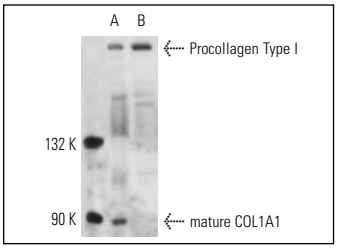
RESEARCH USE

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

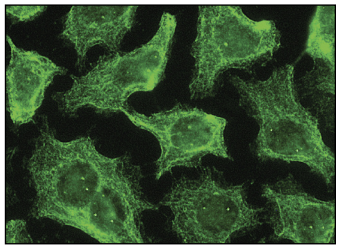
STORAGE

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

DATA



COL1A1 (H-197): sc-28657. Western blot analysis of COL1A1 expression in Hs 294T (**A**) and 143.98.2 (**B**) whole cell lysates.



COL1A1 (H-197): sc-28657. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Michalski, C.W., et al. 2007. Mononuclear cells modulate the activity of pancreatic stellate cells which in turn promote fibrosis and inflammation in chronic pancreatitis. J. Transl. Med. 5: 63.
2. Attia, J., et al. 2011. Modulation of collagen and keratin synthesis in co-cultures of fibroblasts and keratinocytes on hyaluronan-coated polysulfone membranes. J. Bioact. Compat. Polym. 26: 71-88.
3. Penolazzi, L., et al. 2012. Human mesenchymal stem cells seeded on extracellular matrix-scaffold: viability and osteogenic potential. J. Cell. Physiol. 227: 857-866.
4. Yin, H., et al. 2013. Expression profiling of nuclear receptors identifies key roles of NR4A subfamily in uterine fibroids. Mol. Endocrinol. 27: 726-740.
5. Al-Qattan, M.M., et al. 2013. Salamander-derived, human-optimized nAG protein suppresses collagen synthesis and increases collagen degradation in primary human fibroblasts. Biomed Res. Int. 2013: 384091.
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7. Chang, Y.C., et al. 2014. Arecoline-induced myofibroblast transdifferent iation fromhuman buccal mucosal fibroblasts is mediated by ZEB1. J. Cell. Mol. Med. 18: 698-708.
8. Xiu, L., et al. 2015. Intracellular sphingosine 1-phosphate contributes to collagen expression of hepatic myofibroblasts in human liver fibrosis independent of its receptors. Am. J. Pathol. 185: 387-398.