SANTA CRUZ BIOTECHNOLOGY, INC.

COL21A1 (D-13): sc-167518

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. COL21A1 (collagen, type XXI, α 1), also known as FP633 or COLA1L, is a 957 amino acid cytoplasmic protein that contains 6 collagen-like domains and belongs to the fibril-associated collagens with interrupted helices (FACIT) family. COL21A1 exists as three alternatively spliced isoforms that are stimulated by PDGF (platelet-derived growth factor).

REFERENCES

1. McCarthy, J.B., et al. 1996. Cell adhesion to collagenous matrices. Biopolymers 40: 371-381.
2. 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.
3. Alberio, L., et al. 1999. Review article: platelet-collagen interactions: membrane receptors and intracellular signalling pathways. Eur. J. Clin. Invest. 29: 1066-1076.
4. Boskey, A.L., et al. 1999. Collagen and bone strength. J. Bone Miner. Res. 14: 330-335.
5. Fitzgerald, J., et al. 2001. A new FACIT of the collagen family: COL21A1. FEBS Lett. 505: 275-280.
6. Chou, M.Y., et al. 2002. Genomic organization and characterization of the human type XXI collagen (COL21A1) gene. Genomics 79: 395-401.
7. Tuckwell, D. 2002. Identification and analysis of collagen α 1(XXI), a novel member of the FACIT collagen family. Matrix Biol. 21: 63-66.
8. Online Mendelian Inheritance in Man, OMIM™. 2010. Johns Hopkins University, Baltimore, MD. MIM Number: 610002. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: COL21A1 (human) mapping to 6p12.1.

SOURCE

COL21A1 (D-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Collagen α1 Type XXI of human origin.

STORAGE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-167518 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

COL21A1 (D-13) is recommended for detection of Collagen α1 Type XXI of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

COL21A1 (D-13) is also recommended for detection of Collagen α1 Type XXI in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for COL21A1 siRNA (h): sc-95640, COL21A1 shRNA Plasmid (h): sc-95640-SH and COL21A1 shRNA (h) Lentiviral Particles: sc-95640-V.

Molecular Weight of COL21A1: 99 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Karaöz, E., et al. 2010. Isolation and *in vitro* characterisation of dental pulp stem cells from natal teeth. Histochem. Cell Biol. 133: 95-112.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.