SANTA CRUZ BIOTECHNOLOGY, INC.

COL18A1 (S-20): sc-16651

BACKGROUND

Collagen type XV (COL15 gene product) and XVIII (COL18 gene product) form the new subgroup MULTIPLEXIN, within the diverse family of collagens, which contains 19 distinct types of collagens found in vertebrates. Both collagen type XV and type XVIII are characterized by extensive interruptions in their collagenous sequences. Members of the MULTIPLEXIN subgroup contain polypeptides with multiple triple-helical domains separated and flanked by non-triple-helical regions. Type XV is predominantly expressed in internal organs such as adrenal gland, kidney and pancreas. Type XVIII encodes 2 different α1 chains, which have different signal peptides and variant N-terminal non-collagenous NC1 domains of 495 and 303 amino acids. The long variant NC1-434 Type XVIII mRNAs are prominently expressed in liver, while the variant NC1-303 mRNAs are predominantly expressed in heart, kidney, placenta, prostate, ovary, skeletal muscle and small intestine. Endostatin is a fragment of the C-terminal domain NC1 of collagen type XV and type XVIII that inhibits angiogenesis and tumor growth. Unlike endostatin-XVIII, endostatin-XV does not bind zinc or heparin, however both endostatins can inhibit chorioallantoic membrane angiogenesis induced by basic FGF or VEGF. Collagen Type XV and XVIII are also widely present in basement membrane zones, suggesting their roles in basement membrane-stromal interactions and involvement with angiogenic and pathological processes.

REFERENCES

1. Muragaki, Y., et al. 1994. The human α1(XV) collagen chain contains a large amino-terminal non-triple helical domain with a tandem repeat structure and homology to α1 (XVIII) collagen. J. Biol. Chem. 269: 4042-4046.
2. Kivirikko, S., et al. 1994. Primary structure of α1 chain of human type XV collagen and exon-intron organization in the 3' region of the corresponding gene. J. Biol. Chem. 269: 4773-4779.
3. Oh, S.P., et al. 1994. Cloning of cDNA and genomic DNA encoding human type XVIII collagen and localization of the α1 (XVIII) collagen gene to mouse chromosome 10 and human chromosome 21. Genomics 19: 494-499.

CHROMOSOMAL LOCATION

Genetic locus: COL18A1 (human) mapping to 21q22.3; Col18a1 (mouse) mapping to 10 C1.

SOURCE

COL18A1 (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Collagen α1 Type XVIII 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.

Blocking peptide available for competition studies, sc-16651 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

COL18A1 (S-20) is recommended for detection of Collagen α1 Type XVIII of mouse, rat, human and *Xenopus laevis* 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

COL18A1 (S-20) is also recommended for detection of Collagen α1 Type XVIII in additional species, including equine, bovine and avian.

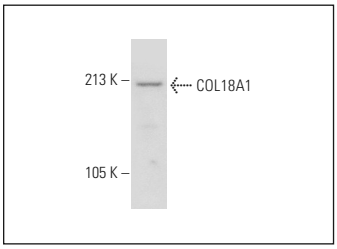
Suitable for use as control antibody for COL18A1 siRNA (h): sc-43072, COL18A1 siRNA (m): sc-43073, COL18A1 shRNA Plasmid (h): sc-43072-SH, COL18A1 shRNA Plasmid (m): sc-43073-SH, COL18A1 shRNA (h) Lentiviral Particles: sc-43072-V and COL18A1 shRNA (m) Lentiviral Particles: sc-43073-V.

Molecular Weight of COL18A1 isoforms: 178/154/136 kDa.

Molecular Weight of COL18A1 endostatin fragment: 20 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, rat liver extract: sc-2395 or rat kidney extract: sc-2394.

DATA



COL18A1 (S-20): sc-16651. Western blot analysis of COL18A1 expression in Hep G2 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Schumacher, K., et al. 2003. Characterization of micro-fibers at the interface between the renal collecting duct ampulla and the cap condensate. Nephron Exp. Nephrol. 95: e43-e54.
2. O'Riordan, E., et al. 2006. Chronic NOS inhibition actuates endothelial-mesenchymal transformation. Am. J. Physiol. Heart Circ. Physiol. 292: H285-H294.

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 or our catalog for detailed protocols and support products.