SANTA CRUZ BIOTECHNOLOGY, INC.

COL18A1 (1837-46): sc-32720

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 Collagen 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 two 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 promi-nently 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.

CHROMOSOMAL LOCATION

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

SOURCE

COL18A1 (1837-46) is a mouse monoclonal antibody raised against recombinant mouse endostatin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

COL18A1 (1837-46) is available conjugated to agarose (sc-32720 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-32720 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-32720 PE), fluorescein (sc-32720 FITC), Alexa Fluor® 488 (sc-32720 AF488), Alexa Fluor® 546 (sc-32720 AF546), Alexa Fluor® 594 (sc-32720 AF594) or Alexa Fluor® 647 (sc-32720 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-32720 AF680) or Alexa Fluor® 790 (sc-32720 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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 for detailed protocols and support products.

APPLICATIONS

COL18A1 (1837-46) is recommended for detection of Collagen Type XVIII of mouse, rat and 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

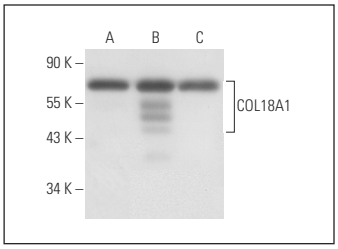
Suitable for use as control antibody for COL18A1 siRNA (h): sc-43072, COL18A1 siRNA (m): sc-43073, COL18A1 shRNA Plasmid (h): sc-43072-SH, COL18A1 shRNA Plasmid (m): sc-43073-SH, COL18A1 shRNA (h) Lentiviral Particles: sc-43072-V and COL18A1 shRNA (m) Lentiviral Particles: sc-43073-V.

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

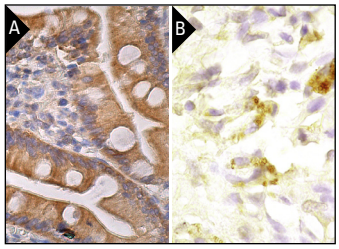
Molecular Weight of COL18A1 endostatin fragment: 20 kDa.

Positive Controls: rat liver extract: sc-2395, rat kidney extract: sc-2394 or rat lung extract: sc-2396.

DATA



COL18A1 (1837-46): sc-32720. Western blot analysis of immunoreactive COL18A1 expression in rat kidney (**A**), rat lung (**B**) and rat liver (**C**) tissue extracts.



COL18A1 (1837-46): sc-32720. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat C6 glioblastoma. Kindly provided by Dr. Hermann Schluesener at U. of Tuebingen Steinbeis Center, Germany (**B**).

SELECT PRODUCT CITATIONS

1. Li, L.X., et al. 2013. Antitumor efficacy of a recombinant adenovirus encoding endostatin combined with an E1B55KD-deficient adenovirus in gastric cancer cells. J. Transl. Med. 11: 257.
2. Besschetnova, T.Y., et al. 2015. Regulatory mechanisms of anthrax toxin receptor 1-dependent vascular and connective tissue homeostasis. Matrix Biol. 42: 56-73.
3. Maity, B., et al. 2020. Malabaricone C attenuates NSAID-induced gastric ulceration by reducing oxidative/nitrative stress and inflammation and promoting angiogenic auto-healing. Antioxid. Redox Signal. 32: 766-784.
4. Pappalardo, A., et al. 2023. Engineering edgeless human skin with enhanced biomechanical properties. Sci. Adv. 9: eade2514.

RESEARCH USE

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