SANTA CRUZ BIOTECHNOLOGY, INC.

COL5A1 (C-5): sc-166155

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 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.

CHROMOSOMAL LOCATION

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

SOURCE

COL5A1 (C-5) is a mouse monoclonal antibody raised against amino acids 251-450 mapping within an extracellular domain of Collagen α1 Type V of human origin.

PRODUCT

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

COL5A1 (C-5) is available conjugated to agarose (sc-166155 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-166155 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166155 PE), fluorescein (sc-166155 FITC), Alexa Fluor® 488 (sc-166155 AF488), Alexa Fluor® 546 (sc-166155 AF546), Alexa Fluor® 594 (sc-166155 AF594) or Alexa Fluor® 647 (sc-166155 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166155 AF680) or Alexa Fluor® 790 (sc-166155 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

COL5A1 (C-5) is recommended for detection of Collagen α1 Type V of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 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.

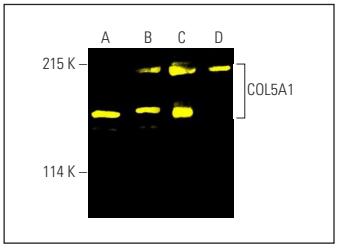
Molecular Weight of COL5A1 isoforms: 220/140 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, BJ whole cell lysate: sc-364359 or PC-12 cell lysate: sc-2250.

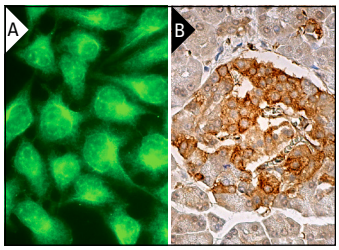
STORAGE

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

DATA



COL5A1 (C-5) Alexa Fluor® 488: sc-166155 AF488. Direct fluorescent western blot analysis of COL5A1 expression in PC-12 (**A**), Hep G2 (**B**) and BJ (**C**) whole cell lysates and human placenta tissue extract (**D**). Blocked with UltraCruz® Blocking Reagent: sc-516214.



COL5A1 (C-5): sc-166155. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of Islets of Langerhans (**B**).

SELECT PRODUCT CITATIONS

1. Berchtold, S., et al. 2015. Collagen type V promotes the malignant phenotype of pancreatic ductal adenocarcinoma. Cancer Lett. 356: 721-732.
2. Chen, J., et al. 2017. Substance P and patterned silk biomaterial stimulate periodontal ligament stem cells to form corneal stroma in a bioengineered three-dimensional model. Stem Cell Res. Ther. 8: 260.
3. Zhang, W., et al. 2017. Surface topography and mechanical strain promote keratocyte phenotype and extracellular matrix formation in a biomimetic 3D corneal model. Adv. Healthc. Mater. E-published.
4. Georgiev, G.P., et al. 2019. A comparative study of the epiligament of the medial collateral and the anterior cruciate ligament in the human knee. Immunohistochemical analysis of collagen type I and V and procollagen type III. Ann. Anat. 224: 88-96.
5. Chen, H.C., et al. 2019. Differential clinical significance of COL5A1 and COL5A2 in tongue squamous cell carcinoma. J. Oral Pathol. Med. 48: 468-476.
6. Nayar, S., et al. 2021. A myeloid-stromal niche and gp130 rescue in NOD2-driven Crohn's disease. Nature 593: 275-281.
7. Bugg, D., et al. 2022. MBNL1 drives dynamic transitions between fibroblasts and myofibroblasts in cardiac wound healing. Cell Stem Cell 29: 419-433.e10.
8. Sagsöz, H., et al. 2022. Expression of cadherins and some connective tissue components in cow uterus and placenta during pregnancy. Res. Vet. Sci. 151: 64-79.
9. Mygind, K.J., et al. 2024. ADAM12-generated basigin ectodomain binds β1 Integrin and enhances the expression of cancer-related extracellular matrix proteins. Int. J. Mol. Sci. 25: 5871.

RESEARCH USE

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