SANTA CRUZ BIOTECHNOLOGY, INC.

COL6A (3C4): sc-47712

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, volume 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.
3. Engel, J. 1997. Versatile collagens in invertebrates. Science 277: 1785-1786.

CHROMOSOMAL LOCATION

Genetic locus: COL6A1 (human) mapping to 21q22.3.

SOURCE

COL6A (3C4) is a mouse monoclonal antibody raised against purified collagen VI of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

COL6A (3C4) is available conjugated to agarose (sc-47712 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-47712 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-47712 PE), fluorescein (sc-47712 FITC), Alexa Fluor® 488 (sc-47712 AF488), Alexa Fluor® 546 (sc-47712 AF546), Alexa Fluor® 594 (sc-47712 AF594) or Alexa Fluor® 647 (sc-47712 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-47712 AF680) or Alexa Fluor® 790 (sc-47712 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

COL6A (3C4) is recommended for detection of globular domains of collagen VI molecules 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

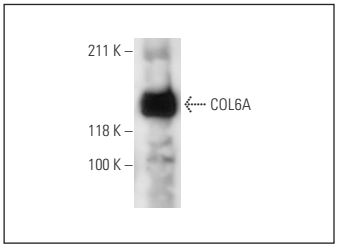
Molecular Weight of COL6A: 140 kDa.

Positive Controls: CCD-1064Sk cell lysate: sc-2263.

STORAGE

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

DATA



Western blot analysis of COL6A expression in CCD-1064Sk whole cell lysate immunoprecipitated with COL6A (3C4): sc-47712 and detected with COL6A1 (H-200): sc-20649.

SELECT PRODUCT CITATIONS

1. Fitzgerald, J., et al. 2008. Three novel collagen VI chains, α4(VI), α5(VI), and α6(VI). J. Biol. Chem. 283: 20170-20180.
2. Fontes, R.B., et al. 2015. Structural and ultrastructural analysis of the cervical discs of young and elderly humans. PLoS ONE 10: e0139283.
3. Endicott, J., et al. 2017. Authentication of collagen VI antibodies. BMC Res. Notes 10: 358.
4. Cescon, M., et al. 2018. Collagen VI is required for the structural and functional integrity of the neuromuscular junction. Acta Neuropathol. 136: 483-499.
5. Yan, Z., et al. 2019. Inhibition of ERK1/2 in cancer-associated pancreatic stellate cells suppresses cancer-stromal interaction and metastasis. J. Exp. Clin. Cancer Res. 38: 221.
6. Fontes, R.B.V., et al. 2019. Normal aging in human lumbar discs: an ultrastructural comparison. PLoS ONE 14: e0218121.
7. Swindell, W.R., et al. 2020. A zingerone analog, acetyl zingerone, bolsters matrisome synthesis, inhibits MMPs, and represses IL-17A target gene expression. J. Invest. Dermatol. 140: 602-614.e15.
8. Treviño-Villarreal, J.H., et al. 2021. Down-regulation of a profibrotic transforming growth factor-β1/cellular communication network factor 2/ matrix metalloprotease 9 axis by triamcinolone improves idiopathic subglottic stenosis. Am. J. Pathol. 191: 1412-1430.

RESEARCH USE

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

PROTOCOLS

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