

## COL6A2 (B-7): sc-374566



The Power to Question

## BACKGROUND

Collagens (COLs) are fibrous, extracellular matrix proteins with high tensile strength that function as the major components of connective tissue, such as tendons and cartilage. All COL proteins contain a triple helix domain and frequently show lateral self-association in order to form complex connective tissues. There are several types of COL proteins, including fibril-forming interstitial COLs (types I, II, III and V), basement membrane COLs (type IV) and beaded filament COLs (type VI). COL6A2 (collagen, type VI,  $\alpha$  2), also known as PP3610, is a 1,019 amino acid secreted protein that contains three VWFA domains and functions as the second of three  $\alpha$  chains that comprise the type VI COL protein complex. Existing as a trimer with two other type VI  $\alpha$  proteins, COL6A2 acts as a cell-binding protein that plays an important role in the organization of matrix components. Defects in the gene encoding COL6A2 are associated with Bethlem myopathy (BM) and Ullrich congenital muscular dystrophy (UCMD). Multiple isoforms of COL6A2 exist due to alternative splicing events.

## REFERENCES

1. Chu, M.L., et al. 1987. Characterization of three constituent chains of collagen type VI by peptide sequences and cDNA clones. *Eur. J. Biochem.* 168: 309-317.
2. Chu, M.L., et al. 1989. Sequence analysis of  $\alpha$  1(VI) and  $\alpha$  2(VI) chains of human type VI collagen reveals internal triplication of globular domains similar to the A domains of von Willebrand factor and two  $\alpha$  2(VI) chain variants that differ in the carboxy terminus. *EMBO J.* 8: 1939-1946.
3. Saitta, B., et al. 1990. Alternative splicing of the human  $\alpha$  2(VI) collagen gene generates multiple mRNA transcripts which predict three protein variants with distinct carboxyl termini. *J. Biol. Chem.* 265: 6473-6480.

## CHROMOSOMAL LOCATION

Genetic locus: COL6A2 (human) mapping to 21q22.3; Col6a2 (mouse) mapping to 10 C1.

## SOURCE

COL6A2 (B-7) is a mouse monoclonal antibody raised against amino acids 241-540 mapping within an internal region of COL6A2 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

COL6A2 (B-7) is available conjugated to agarose (sc-374566 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374566 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374566 PE), fluorescein (sc-374566 FITC), Alexa Fluor<sup>®</sup> 488 (sc-374566 AF488), Alexa Fluor<sup>®</sup> 546 (sc-374566 AF546), Alexa Fluor<sup>®</sup> 594 (sc-374566 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-374566 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-374566 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-374566 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

COL6A2 (B-7) is recommended for detection of Collagen  $\alpha$ 2 Type VI of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], 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).

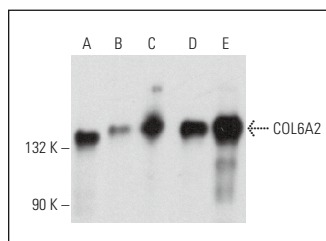
Suitable for use as control antibody for COL6A2 siRNA (h): sc-91429, COL6A2 siRNA (m): sc-142473, COL6A2 shRNA Plasmid (h): sc-91429-SH, COL6A2 shRNA Plasmid (m): sc-142473-SH, COL6A2 shRNA (h) Lentiviral Particles: sc-91429-V and COL6A2 shRNA (m) Lentiviral Particles: sc-142473-V.

Molecular Weight of COL6A2: 109 kDa.

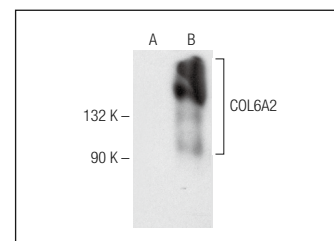
Molecular Weight of glycosylated COL6A2: 120-160 kDa.

Positive Controls: RAT2 whole cell lysate: sc-364198, L6 whole cell lysate: sc-364196 or COL6A2 (h2): 293T Lysate: sc-177076.

## DATA



COL6A2 (B-7): sc-374566. Western blot analysis of COL6A2 expression in WI-38 (A), L929 (B), 3T3-L1 (C), RAT2 (D) and L6 (E) whole cell lysates.



COL6A2 (B-7): sc-374566. Western blot analysis of COL6A2 expression in non-transfected (A) and human COL6A2 transfected: sc-117752 (A) and 293T whole cell lysates (B).

## SELECT PRODUCT CITATIONS

1. Endicott, J., et al. 2017. Authentication of Collagen VI antibodies. *BMC Res. Notes* 10: 358.
2. Sodaj, L., et al. 2019. Quantitative temporal proteomic analysis of vaccinia virus infection reveals regulation of histone deacetylases by an interferon antagonist. *Cell Rep.* 27: 1920-1933.e7.
3. Fang, Z., et al. 2021. Recombinant COL6  $\alpha$ 2 as a self-organization factor that triggers orderly nerve regeneration without guidance cues. *Front. Cell. Neurosci.* 15: 816781.
4. Abbonante, V., et al. 2023. Lack of COL6/collagen VI causes megakaryocyte dysfunction by impairing autophagy and inducing apoptosis. *Autophagy* 19: 984-999.

## STORAGE

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

## RESEARCH USE

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