COL6A2 (h2): 293T Lysate: sc-177076



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, α 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 α chains that comprise the type VI COL protein complex. Existing as a trimer with two other type VI α 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 α 1(VI) and α 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 α 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 α 2(VI) collagen gene generates multiple mRNA transcripts which predict three protein variants with distinct carboxyl termini. J. Biol. Chem. 265: 6473-6480.
- 4. Saitta, B., et al. 1991. The exon organization of the triple-helical coding regions of the human α 1(VI) and α 2(VI) collagen genes is highly similar. Genomics 11: 145-153.
- 5. Saitta, B., et al. 1992. Human α 2(VI) collagen gene. Heterogeneity at the 5'-untranslated region generated by an alternate exon. J. Biol. Chem. 267: 6188-6196.
- 6. Tillet, E., et al. 1994. Recombinant expression and structural and binding properties of α 1(VI) and α 2(VI) chains of human collagen type VI. Eur. J. Biochem. 221: 177-185.
- Kuo, H.J., et al. 1997. Type VI collagen anchors endothelial basement membranes by interacting with type IV collagen. J. Biol. Chem. 272: 26522-26529.
- Lucarini, L., et al. 2005. A homozygous COL6A2 intron mutation causes in-frame triple-helical deletion and nonsense-mediated mRNA decay in a patient with Ullrich congenital muscular dystrophy. Hum. Genet. 117: 460-466.
- 9. Lampe, A.K., et al. 2005. Collagen VI related muscle disorders. J. Med. Genet. 42: 673-685.

CHROMOSOMAL LOCATION

Genetic locus: COL6A2 (human) mapping to 21q22.3.

PRODUCT

COL6A2 (h2): 293T Lysate represents a lysate of human COL6A2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

COL6A2 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive COL6A2 antibodies. Recommended use: 10-20 µl per lane.

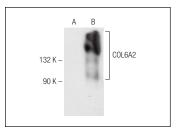
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

COL6A2 (B-7): sc-374566 is recommended as a positive control antibody for Western Blot analysis of enhanced human COL6A2 expression in COL6A2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-lgG κ BP-HRP: sc-516102 or m-lgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



COL6A2 (B-7): sc-374566. Western blot analysis of COL6A2 expression in non-transfected: sc-117752 (**A**) and human COL6A2 transfected: sc-177076 (**B**) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

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.