

COL11A2 (N-12): sc-131135

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). COL11A2 (collagen, type XI, alpha 2), also known as Collagen $\alpha 2$ Type XI, HKE5, PAPP, STL3, DFNA13 or DFNB53, is a 1,736 amino acid secreted protein that contains one TSP N-terminal domain and is thought to play an essential role in fibrillogenesis, specifically by controlling the lateral growth of collagen fibrils. Defects in the gene encoding COL11A2 are the cause of Stickler syndrome type 3 (STL3), autosomal recessive otospondylomegapiphyseal dysplasia (OSMED), Weissenbacher-Zweymueller syndrome (WZS) and non-syndromic sensorineural deafness autosomal dominant type 13 (DFNA13). Eight isoforms of COL11A2 exist due to alternative splicing events.

REFERENCES

- Hanson, I.M., et al. 1989. The human $\alpha 2(XI)$ collagen gene (COL11A2) maps to the centromeric border of the major histocompatibility complex on chromosome 6. *Genomics* 5: 925-931.
- Vikkula, M., et al. 1995. Autosomal dominant and recessive osteochondrodysplasias associated with the COL11A2 locus. *Cell* 80: 431-437.
- Vuristo, M.M., et al. 1995. The human COL11A2 gene structure indicates that the gene has not evolved with the genes for the major fibrillar collagens. *J. Biol. Chem.* 270: 22873-22881.
- Lui, V.C., et al. 1996. The human $\alpha 2(XI)$ collagen gene (COL11A2): completion of coding information, identification of the promoter sequence, and precise localization within the major histocompatibility complex reveal overlap with the KE5 gene. *Genomics* 32: 401-412.
- Sirko-Osada, D.A., et al. 1998. Stickler syndrome without eye involvement is caused by mutations in COL11A2, the gene encoding the $\alpha 2(XI)$ chain of type XI collagen. *J. Pediatr.* 132: 368-371.
- McGuirt, W.T., et al. 1999. Mutations in COL11A2 cause non-syndromic hearing loss (DFNA13). *Nat. Genet.* 23: 413-419.

CHROMOSOMAL LOCATION

Genetic locus: COL11A2 (human) mapping to 6p21.32.

SOURCE

COL11A2 (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Collagen $\alpha 2$ Type XI of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-131135 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

COL11A2 (N-12) is recommended for detection of Collagen $\alpha 2$ Type XI isoforms 1-8 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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); non cross-reactive with other Collagen family members.

Suitable for use as control antibody for COL11A2 siRNA (h): sc-95505, COL11A2 shRNA Plasmid (h): sc-95505-SH and COL11A2 shRNA (h) Lentiviral Particles: sc-95505-V.

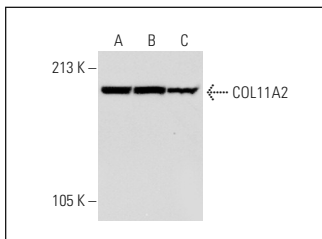
Molecular Weight of COL11A2: 172 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or Hep G2 cell lysate: sc-2227.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



COL11A2 (N-12): sc-131135. Western blot analysis of COL11A2 expression in HeLa (A), K-562 (B) and Hep G2 (C) whole cell lysates.

RESEARCH USE

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