SANTA CRUZ BIOTECHNOLOGY, INC.

COL11A2 (E-13): sc-131132

SANTA CRUZ BIOTECHNOLOGY

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). COL11A2 (collagen, type XI, alpha 2), also known as Collagen α2 Type XI, HKE5, PARP, 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 otospondylomegaepiphyseal 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

1. Hanson, I.M., et al. 1989. The human α2(XI) collagen gene (COL11A2) maps to the centromeric border of the major histocompatibility complex on chromosome 6. Genomics 5: 925-931.
2. Vikkula, M., et al. 1995. Autosomal dominant and recessive osteochondrodysplasias associated with the COL11A2 locus. Cell 80: 431-437.
3. 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.
4. Lui, V.C., et al. 1996. The human α2(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.
5. Sirko-Osadsa, D.A., et al. 1998. Stickler syndrome without eye involvement is caused by mutations in COL11A2, the gene encoding the α2(XI) chain of type XI collagen. J. Pediatr. 132: 368-371.
6. McGuirt, W.T., et al. 1999. Mutations in COL11A2 cause non-syndromic hearing loss (DFNA13). Nat. Genet. 23: 413-419.
7. Melkoniemi, M., et al. 2000. Autosomal recessive disorder otospondylomegaepiphyseal dysplasia is associated with loss-of-function mutations in the COL11A2 gene. Am. J. Hum. Genet. 66: 368-377.
8. Chen, W., et al. 2005. Mutation of COL11A2 causes autosomal recessive non-syndromic hearing loss at the DFNB53 locus. J. Med. Genet. 42: e61.
9. Avcin, T., et al. 2008. Early-onset osteoarthritis due to otospondylomegaepiphyseal dysplasia in a family with a novel splicing mutation of the COL11A2 gene. J. Rheumatol. 35: 920-926.

CHROMOSOMAL LOCATION

Genetic locus: Col11a2 (mouse) mapping to 17 B1.

SOURCE

COL11A2 (E-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Collagen α2 Type XI of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-131132 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

COL11A2 (E-13) is recommended for detection of Collagen α2 Type XI isoforms 1-7 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (m): sc-142459, COL11A2 shRNA Plasmid (m): sc-142459-SH and COL11A2 shRNA (m) Lentiviral Particles: sc-142459-V.

Molecular Weight of COL11A2: 172 kDa.

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) 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.

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.

PROTOCOLS

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