

COL13A1 (G-13): sc-167513

BACKGROUND

The collagen family is composed of at least 13 chain types, including vascular interstitial collagens and basement membrane collagens, 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. COL13A1 (collagen α -1(XIII) chain), also designated COLXIII A1, is a 717 amino acid single-pass type II membrane protein that exists as 9 alternatively spliced isoforms and is thought to play a role in endochondral ossification of bone. COL13A1 may assist in lung morphogenesis and forming connections between muscle fiber and basement membrane.

REFERENCES

- Pihlajaniemi, T., et al. 1987. Partial characterization of a low molecular weight human collagen that undergoes alternative splicing. *Proc. Natl. Acad. Sci. USA* 84: 940-944.
- Pajunen, L., et al. 1989. Assignment of the gene coding for the α 1 chain of collagen type XIII (COL13A1) to human chromosome region 10q11—qter. *Cytogenet. Cell Genet.* 52: 190-193.
- Pihlajaniemi, T., et al. 1990. The α 1 chain of type XIII collagen consists of three collagenous and four noncollagenous domains, and its primary transcript undergoes complex alternative splicing. *J. Biol. Chem.* 265: 16922-16928
- Eyre, D.R., et al. 1991. The cartilage collagens: structural and metabolic studies. *J. Rheumatol. Suppl.* 27: 49-51.
- Eyre, D.R. 1991. The collagens of articular cartilage. *Semin. Arthritis Rheum.* 21: 2-11.
- Horelli-Kuitunen, N., et al. 1997. The order and transcriptional orientation of the human COL13A1 and P4HA genes on chromosome 10 long arm determined by high-resolution FISH. *Genomics* 46: 299-302.
- Cremer, M.A., et al. 1998. The cartilage collagens: a review of their structure, organization, and role in the pathogenesis of experimental arthritis in animals and in human rheumatic disease. *J. Mol. Med.* 76: 275-288.
- Snellman, A., et al. 2000. A short sequence in the N-terminal region is required for the trimerization of type XIII collagen and is conserved in other collagenous transmembrane proteins. *EMBO J.* 19: 5051-5059.
- Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 120350. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: COL13A1 (human) mapping to 10q22.1; Col13a1 (mouse) mapping to 10 B4.

RESEARCH USE

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

SOURCE

COL13A1 (G-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of Collagen α 1 Type XIII of human origin.

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-167513 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

COL13A1 (G-13) is recommended for detection of Collagen α 1 Type XIII of mouse, rat and human 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 α 1 family members.

COL13A1 (G-13) is also recommended for detection of Collagen α 1 Type XIII in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for COL13A1 siRNA (h): sc-90350, COL13A1 siRNA (m): sc-142460, COL13A1 shRNA Plasmid (h): sc-90350-SH, COL13A1 shRNA Plasmid (m): sc-142460-SH, COL13A1 shRNA (h) Lentiviral Particles: sc-90350-V and COL13A1 shRNA (m) Lentiviral Particles: sc-142460-V.

Molecular Weight of COL13A1: 70 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.

PROTOCOLS

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