COL23A1 (C-10): sc-514835

BACKGROUND

The extensive family of COL gene products (collagens) is composed of several chain types, including fibril-forming interstitial collagens (types I, II, III and V) and basement membrane collagens (type IV), 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. COL23A1 (collagen α-1 (XXIII) chain) is a 540 amino acid single-pass type II membrane protein that exists as a homo-trimer and contains five collagen-like domains. COL23A1 undegoes alternative splicing to produce two isoforms and is encoded by a gene that maps to human chromosome 5.

REFERENCES

1. Eyre, D.R., et al. 1991. The cartilage collagens: structural and metabolic studies. J. Rheumatol. Suppl. 27: 49-51.

2. Eyre, D.R. 1991. The collagens of articular cartilage. Semin. Arthritis Rheum. 21: 2-11.

3. 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.

4. Banyard, J., et al. 2003. Type XXIII collagen, a new transmembrane collagen identified in metastatic tumor cells. J. Biol. Chem. 278: 20989-20994.

5. Koch, M., et al. 2006. Expression of type XXIII collagen mRNA and protein. J. Biol. Chem. 281: 21546-21557.

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CHROMOSOMAL LOCATION

Genetic locus: COL23A1 (human) mapping to 5q35.3; Col23a1 (mouse) mapping to 11 B1.3.

SOURCE

COL23A1 (C-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 70-86 within an extracellular domain of Collagen α1 Type XXIII of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-514835 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

COL23A1 (C-10) is recommended for detection of COL23A1 isoform 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 COL23A1 siRNA (h): sc-91609, COL23A1 siRNA (m): sc-142464, COL23A1 shRNA Plasmid (h): sc-91609-SH, COL23A1 shRNA Plasmid (m): sc-142464-SH, COL23A1 shRNA (h) Lentiviral Particles: sc-91609-V and COL23A1 shRNA (m) Lentiviral Particles: sc-142464-V.

Molecular Weight (predicted) of COL23A1: 52 kDa.

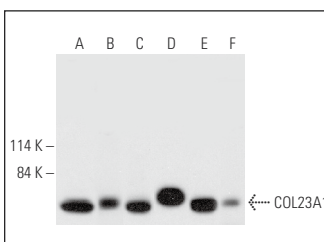Molecular Weight (observed) of COL23A1: 75 kDa.

Positive Controls: NCI-H460 whole cell lysate: sc-364235, human lung extract: sc-363767 or human testis extract: sc-363781.
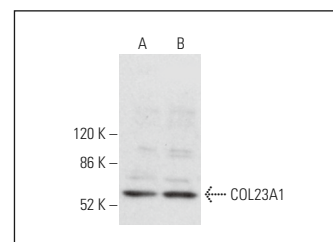
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunopre-cipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immu-nofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA

COL23A1 (C-10): sc-514835. Western blot analysis of COL23A1 expression in NCI-H460 whole cell lysate (**A**) and human thymus (**B**), human placenta (**C**), human brain (**D**), human testis (**E**) and human lung (**F**) tissue extracts.

COL23A1 (C-10): sc-514835. Western blot analysis of COL23A1 expression in NCI-H460 (**A**) and JAR (**B**) whole cell lysates.

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.