

COL4A6 (N-13): sc-167526

BACKGROUND

Collagens are fibrous, extracellular matrix proteins with high tensile strength and are the major components of connective tissue, such as tendons and cartilage. Collagens contain triple helix domains and frequently show lateral self-association in order to form complex connective tissues. Several collagens play a role in cell adhesion, which is important for maintaining normal tissue architecture and function. COL4A6 (collagen, type IV, α 6) is a 1,691 amino acid secreted protein belonging to the type IV collagen family. Type IV collagen, a major component of the basement membrane (BM), is composed of six genetically distinct α (IV) chains, α 1(IV) to α 6(IV). Defects in the gene encoding COL4A6 is believed to be the cause of X-linked Alport syndrome (AS), which is characterized by macroscopic hematuria, cataracts and leiomyomatosis.

REFERENCES

- Zheng, K., Harvey, S., Sado, Y., Naito, I., Ninomiya, Y., Jacobs, R. and Thorne, P.S. 1999. Absence of the α 6(IV) chain of collagen type IV in Alport syndrome is related to a failure at the protein assembly level and does not result in diffuse leiomyomatosis. *Am. J. Pathol.* 154: 1883-1891.
- Segal, Y., Zhuang, L., Rondeau, E., Sraer, J.D. and Zhou, J. 2001. Regulation of the paired type IV collagen genes COL4A5 and COL4A6. Role of the proximal promoter region. *J. Biol. Chem.* 276: 11791-11797.
- Mothes, H., Heidet, L., Arrondel, C., Richter, K.K., Thiele, M., Patzer, L., Sado, Y., Gubler, M.C., Antignac, C. and Scheele, J. 2002. Alport syndrome associated with diffuse leiomyomatosis: COL4A5-COL4A6 deletion associated with a mild form of Alport nephropathy. *Nephrol. Dial. Transplant.* 17: 70-74.
- Anker, M.C., Arnemann, J., Neumann, K., Ahrens, P., Schmidt, H. and König, R. 2003. Alport syndrome with diffuse leiomyomatosis. *Am. J. Med. Genet. A.* 119A: 381-385.
- Thielen, B.K., Barker, D.F., Nelson, R.D., Zhou, J., Kren, S.M. and Segal, Y. 2003. Deletion mapping in Alport syndrome and Alport syndrome-diffuse leiomyomatosis reveals potential mechanisms of visceral smooth muscle overgrowth. *Hum. Mutat.* 22: 419.
- Sund, M., Maeshima, Y. and Kalluri, R. 2005. Bifunctional promoter of type IV collagen COL4A5 and COL4A6 genes regulates the expression of α 5 and α 6 chains in a distinct cell-specific fashion. *Biochem. J.* 387: 755-761.
- Ikeda, K., Iyama, K., Ishikawa, N., Egami, H., Nakao, M., Sado, Y., Ninomiya, Y. and Baba, H. 2006. Loss of expression of type IV collagen α 5 and α 6 chains in colorectal cancer associated with the hypermethylation of their promoter region. *Am. J. Pathol.* 168: 856-865.

CHROMOSOMAL LOCATION

Genetic locus: COL4A6 (human) mapping to Xq22.3; Col4a6 (mouse) mapping to X F1.

SOURCE

COL4A6 (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Collagen α 6 Type IV 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-167526 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

COL4A6 (N-13) is recommended for detection of Collagen α 6 Type IV 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 COL4A family members.

Suitable for use as control antibody for COL4A6 siRNA (h): sc-91179, COL4A6 siRNA (m): sc-142470, COL4A6 shRNA Plasmid (h): sc-91179-SH, COL4A6 shRNA Plasmid (m): sc-142470-SH, COL4A6 shRNA (h) Lentiviral Particles: sc-91179-V and COL4A6 shRNA (m) Lentiviral Particles: sc-142470-V.

Molecular Weight of COL4A6: 170-185 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.


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Try **COL4A6 (G-2): sc-398655**, our highly recommended monoclonal alternative to COL4A6 (N-13).