SANTA CRUZ BIOTECHNOLOGY, INC.

COL4A1/5 (C-19): sc-9302

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

REFERENCES

1. Bateman, J.F., et al. 1996. Collagen Superfamily. In Comper, W.D., ed. Extracellular Matrix, Vol. Molecular Components and Interactions. Amsterdam: Harwood Academic Publishers. 2: 22-67.
2. McCarthy, J.B., et al. 1996. Cell adhesion to collagenous matrices. Biopolymers 40: 371-381.
3. Engel, J. 1997. Versatile collagens in invertebrates. Science 277: 1785-1786.
4. 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.
5. Boskey, A.L., et al. 1999. Collagen and bone strength. J. Bone Miner. Res. 14: 330-335.
6. Alberio, L., et al. 1999. Platelet-collagen interactions: membrane receptors and intracellular signaling pathways. Eur. J. Clin. Invest. 29: 1066-1076.
7. Kalluri, R. 2002. Discovery of type IV collagen non-collagenous domains as novel integrin ligands and endogenous inhibitors of angiogenesis. Cold Spring Harb. Symp. Quant. Biol. 67: 255-266.

CHROMOSOMAL LOCATION

Genetic locus: COL4A1 (human) mapping to 13q34, COL4A5 (human) mapping to Xq22.3; Col4a1 (mouse) mapping to 8 A1.1, Col4a5 (mouse) mapping to X F2.

SOURCE

COL4A1/5 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Collagen Type IV of human 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-9302 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

COL4A1/5 (C-19) is recommended for detection of collagen α1 type IV and collagen α5 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).

COL4A1/5 (C-19) is also recommended for detection of collagen α1 type IV and Collagen α5 Type IV in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of COL4A1/5: 160-190 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or Hs68 cell lysate: sc-2230.

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.

SELECT PRODUCT CITATIONS

1. Iacobini, C., et al. 2005. Development of age-dependent glomerular lesions in galectin-3/AGE-receptor-3 knockout mice. Am. J. Physiol. Renal Physiol. 289: F611-F621.
2. Kramer, J., et al. 2006. Cells differentiated from mouse embryonic stem cells via embryoid bodies express renal marker molecules. Differentiation 74: 91-104.
3. Mohan, R.R., et al. 2011. Targeted decorin gene therapy delivered with adeno-associated virus effectively retards corneal neovascularization *in vivo*. PLoS ONE 6: e26432.
4. Martínez-García, C., et al. 2012. Accelerated renal disease is associated with the development of metabolic syndrome in a glucolipotoxic mouse model. Dis. Model. Mech. 5: 636-648.

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.