SANTA CRUZ BIOTECHNOLOGY, INC.

COL9A1 (m2): 293T Lysate: sc-119373

BACKGROUND

The Collagen Type IX protein (also known as Collagen α1 Type IX) is encoded by the COL9A1 gene which possesses two promoter regions and codes for both a long chain Collagen Type IX protein expressed in the cartilage, and a shorter Collagen Type IX protein expressed in the cornea and vitreous. Collagen Type IX forms a heterotrimer with Collagen α2 Type IX and Collagen α3 Type IX. When it is expressed in hyaline cartilage, Collagen Type IX posseses a large N-terminal globular domain (NC4). The COL9A1 gene is also expressed in the human inner ear, and disruption of this gene in mice results in hearing loss, indicating the role of Collagen Type IX in hearing. Mutations in the COL9A1 gene are associated with multiple epiphyseal dysplasia (MED), a chondrodysplasia, in humans. Collagen Type IX is often co-localized with Collagen Type II, and may play a role in the interaction of fibrils between Collagen Type II and Collagen Type IX.

REFERENCES

1. McCormick, D., et al. 1987. Structure of the glycosaminoglycan domain in the Type IX Collagen-proteoglycan. Proc. Natl. Acad. Sci. USA 84: 4044-4048.
2. Muragaki, Y., et al. 1990. The complete primary structure of two distinct forms of human α(IX) Collagen chains. Eur. J. Biochem. 192: 703-708.
3. Warman, M.L., et al. 1993. Physical and linkage mapping of the human and murine genes for the α1 chain of Type IX Collagen (COL9A1). Genomics 17: 694-698.
4. Fassler, R., et al. 1994. Mice lacking α1(IX) Collagen develop noninflammatory degenerative joint disease. Proc. Natl. Acad. Sci. USA 91: 5070-5074.
5. Czarny-Ratajczak, M., et al. 2001. A mutation in COL9A1 causes multiple epiphyseal dysplasia: further evidence for locus heterogeneity. Am. J. Hum. Genet. 69: 969-980.
6. Zhang, P., et al. 2003. Regulation of human COL9A1 gene expression. Activation of the proximal promoter region by Sox-9. J. Biol. Chem. 278: 117-123.
7. Asamura, K., et al. 2005. Collagen Type IX is crucial for normal hearing. Neuroscience 132: 493-500.

CHROMOSOMAL LOCATION

Genetic locus: Col9a1 (mouse) mapping to 1 A5.

PRODUCT

COL9A1 (m2): 293T Lysate represents a lysate of mouse COL9A1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

COL9A1 (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive COL9A1 antibodies. Recommended use: 10-20 µl per lane.

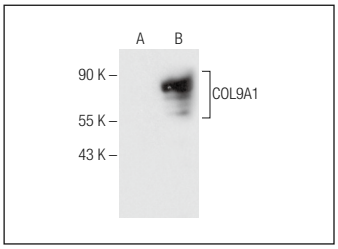
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

DCC (A-1): sc-515834 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse COL9A1 expression in COL9A1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



COL9A1 (H-7): sc-376969. Western blot analysis of COL9A1 expression in non-transfected: sc-117752 (**A**) and mouse COL9A1 transfected: sc-119373 (**B**) 293T whole cell lysates.

RESEARCH USE

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