

COL9A1 (H-7): sc-376969

BACKGROUND

The Collagen Type IX protein (also known as Collagen α 1 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 α 2 Type IX and Collagen α 3 Type IX. When it is expressed in hyaline cartilage, Collagen Type IX possesses 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 α 1 chain of type IX collagen (COL9A1). Genomics 17: 694-698.
4. Fassler, R., et al. 1994. Mice lacking α 1(IX) collagen develop noninflammatory degenerative joint disease. Proc. Natl. Acad. Sci. USA 91: 5070-5074.

CHROMOSOMAL LOCATION

Genetic locus: COL9A1 (human) mapping to 6q13; Col9a1 (mouse) mapping to 1 A5.

SOURCE

COL9A1 (H-7) is a mouse monoclonal antibody raised against amino acids 532-612 mapping within an internal region of Collagen α 1 Type IX of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

COL9A1 (H-7) is available conjugated to agarose (sc-376969 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376969 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376969 PE), fluorescein (sc-376969 FITC), Alexa Fluor[®] 488 (sc-376969 AF488), Alexa Fluor[®] 546 (sc-376969 AF546), Alexa Fluor[®] 594 (sc-376969 AF594) or Alexa Fluor[®] 647 (sc-376969 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-376969 AF680) or Alexa Fluor[®] 790 (sc-376969 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

COL9A1 (H-7) is recommended for detection of Collagen α 1 Type IX of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 COL9A1 siRNA (h): sc-45635, COL9A1 siRNA (m): sc-45636, COL9A1 shRNA Plasmid (h): sc-45635-SH, COL9A1 shRNA Plasmid (m): sc-45636-SH, COL9A1 shRNA (h) Lentiviral Particles: sc-45635-V and COL9A1 shRNA (m) Lentiviral Particles: sc-45636-V.

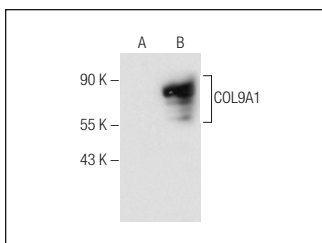
Molecular Weight of COL9A1: 92 kDa.

Positive Controls: COL9A1 (m): 293T Lysate: sc-119373.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



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.

SELECT PRODUCT CITATIONS

1. Li, M., et al. 2022. Direct reprogramming of mouse subchondral bone osteoblasts into chondrocyte-like cells. Biomedicines 10: 2582.

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.