

# COL9A2 (H-8): sc-398130

## 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. COL9A2 (Collagen  $\alpha$ 2 (IX) chain), also known as MED or EDM2, is a 689 amino acid extracellular matrix protein and component of hyaline cartilage and vitreous of the eye. A member of the fibril-associated collagens with interrupted helices (FACIT) family, COL9A2 is encoded by a gene that maps to human chromosome 1p34.2. Mutations in the COL9A2 gene are linked to multiple epiphyseal dysplasia.

## REFERENCES

- McCarthy, J.B., et al. 1996. Cell adhesion to collagenous matrices. *Biopolymers* 40: 371-381.
- 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.
- Pihlajamaa, T., et al. 1998. Human COL9A1 and COL9A2 genes. Two genes of 90 and 15 kb code for similar polypeptides of the same collagen molecule. *Matrix Biol.* 17: 237-241.
- Alberio, L. and Dale, G.L. 1999. Review article: platelet-collagen interactions: membrane receptors and intracellular signalling pathways. *Eur. J. Clin. Invest.* 29: 1066-1076.

## CHROMOSOMAL LOCATION

Genetic locus: COL9A2 (human) mapping to 1p34.2; Col9a2 (mouse) mapping to 4 D2.2.

## SOURCE

COL9A2 (H-8) is a mouse monoclonal antibody raised against amino acids 341-515 mapping within an internal region of Collagen  $\alpha$ 2 Type IX of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

COL9A2 (H-8) is available conjugated to agarose (sc-398130 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398130 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398130 PE), fluorescein (sc-398130 FITC), Alexa Fluor® 488 (sc-398130 AF488), Alexa Fluor® 546 (sc-398130 AF546), Alexa Fluor® 594 (sc-398130 AF594) or Alexa Fluor® 647 (sc-398130 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398130 AF680) or Alexa Fluor® 790 (sc-398130 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

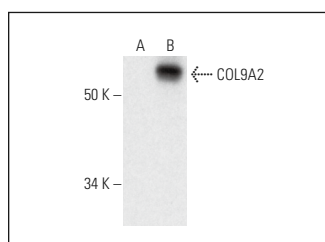
COL9A2 (H-8) is recommended for detection of Collagen  $\alpha$ 2 Type IX of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting 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 COL9A2 siRNA (h): sc-78705, COL9A2 siRNA (m): sc-142476, COL9A2 shRNA Plasmid (h): sc-78705-SH, COL9A2 shRNA Plasmid (m): sc-142476-SH, COL9A2 shRNA (h) Lentiviral Particles: sc-78705-V and COL9A2 shRNA (m) Lentiviral Particles: sc-142476-V.

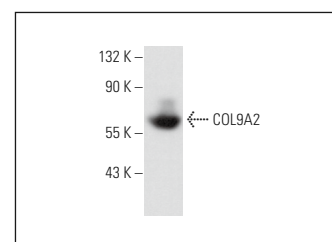
Molecular Weight of COL9A2: 65 kDa.

Positive Controls: COL9A2 (m): 293T Lysate: sc-125159 or THP-1 cell lysate: sc-2238.

## DATA



COL9A2 (H-8): sc-398130. Western blot analysis of COL9A2 expression in non-transfected: sc-117752 (A) and mouse COL9A2 transfected: sc-125159 (B) 293T whole cell lysates.



COL9A2 (H-8): sc-398130. Western blot analysis of COL9A2 expression in THP-1 whole cell lysate.

## SELECT PRODUCT CITATIONS

- Cui, S., et al. 2021. Transcriptional profiling of intervertebral disc in a post-traumatic early degeneration organ culture model. *JOR Spine* 4: e1146.
- Xu, H., et al. 2022. COL9A2 gene deletion accelerates the degeneration of intervertebral discs. *Exp. Ther. Med.* 23: 207.
- Dong, R., et al. 2023. Disruption of Col9a2 expression leads to defects in osteochondral homeostasis and osteoarthritis-like phenotype in mice. *J. Orthop. Translat.* 41: 33-41.

## 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](http://www.scbt.com) for detailed protocols and support products.