

# ChM-1 (C-20): sc-20310

## BACKGROUND

ChM-1 is a cartilage-specific matrix glycoprotein that stimulates the growth of chondrocytes. ChM-1 inhibits angiogenesis by disrupting the tube formation of endothelial cells and thus is responsible for the avascular nature of cartilage. ChM-1 is strongly expressed by the proliferating and hypertrophic zones in the epiphyseal plate of long bones. ChM-1 accumulates in the interterritorial matrix around the lacunae. During development, downregulation of ChM-1 permits angiogenesis and ultimately bone formation on the cartilage template. ChM-1 expression is downregulated in the presence of several growth factors including TGF $\beta$ 2, FGF2 and PTHLH. ChM-1 expression may also play a role in the hypovascularity and chondroid formation of pleomorphic adenomas. The gene encoding human ChM-1 maps to chromosome 13q14.3.

## REFERENCES

- Hiraki, Y., Tanaka, H., Inoue, H., Kondo, J., Kamizono, A. and Suzuki, F. 1991. Molecular cloning of a new class of cartilage-specific matrix, Chondromodulin-I, which stimulates growth of cultured chondrocytes. *Biochem. Biophys. Res. Commun.* 175: 971-977.
- Hiraki, Y., Kono, T., Sato, M., Shukunami, C. and Kondo, J. 1997. Inhibition of DNA synthesis and tube morphogenesis of cultured vascular endothelial cells by Chondromodulin-I. *FEBS Lett.* 415: 321-324.
- Hiraki, Y., Inoue, H., Iyama, K., Kamizono, A., Ochiai, M., Shukunami, C., Iijima, S., Suzuki, F. and Kondo, J. 1997. Identification of Chondromodulin-I as a novel endothelial cell growth inhibitor. Purification and its localization in the avascular zone of epiphyseal cartilage. *J. Biol. Chem.* 272: 32419-32426.
- Shukunami, C. and Hiraki, Y. 1998. Expression of cartilage-specific functional matrix Chondromodulin-I mRNA in rabbit growth plate chondrocytes and its responsiveness to growth stimuli *in vitro*. *Biochem. Biophys. Res. Commun.* 249: 885-890.
- Shukunami, C., Iyama, K., Inoue, H. and Hiraki, Y. 1999. Spatiotemporal pattern of the mouse Chondromodulin-I gene expression and its regulatory role in vascular invasion into cartilage during endochondral bone formation. *Int. J. Dev. Biol.* 43: 39-49.

## CHROMOSOMAL LOCATION

Genetic locus: LECT1 (human) mapping to 13q14.3; Lect1 (mouse) mapping to 14 D3.

## SOURCE

ChM-1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ChM-1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-20310 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ChM-1 (C-20) is recommended for detection of ChM-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

ChM-1 (C-20) is also recommended for detection of ChM-1 in additional species, including equine, canine, bovine and porcine.

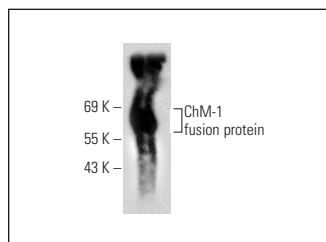
Suitable for use as control antibody for ChM-1 siRNA (h): sc-43279, ChM-1 siRNA (m): sc-43280, ChM-1 shRNA Plasmid (h): sc-43279-SH, ChM-1 shRNA Plasmid (m): sc-43280-SH, ChM-1 shRNA (h) Lentiviral Particles: sc-43279-V and ChM-1 shRNA (m) Lentiviral Particles: sc-43280-V.

Molecular Weight of ChM-1 precursor: 37 kDa.

Molecular Weight of secreted ChM-1: 25 kDa.

Positive Controls: U-2 OS cell lysate: sc-2295.

## DATA



ChM-1 (C-20): sc-20310. Western blot analysis of human recombinant ChM-1 fusion protein.

## 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) or our catalog for detailed protocols and support products.

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Try **ChM-1 (H-10): sc-365693**, our highly recommended monoclonal alternative to ChM-1 (C-20).