

ChM-1 (h): 293T Lysate: sc-114096

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 β 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.
- Yanagihara, I., Yamagata, M., Sakai, N., Shukunami, C., Kurahashi, H., Yamazaki, M., Michigami, T., Hiraki, Y. and Ozono, K. 2000. Genomic organization of the human chondromodulin-1 gene containing a promoter region that confers the expression of reporter gene in chondrogenic ATDC5 cells. *J. Bone Miner. Res.* 15: 421-429.
- Kusafuka, K., Hiraki, Y., Shukunami, C., Yamaguchi, A., Kayano, T. and Takemura, T. 2001. Cartilage-specific matrix protein chondromodulin-I is associated with chondroid formation in salivary pleomorphic adenomas: immunohistochemical analysis. *Am. J. Pathol.* 158: 1465-1472.

CHROMOSOMAL LOCATION

Genetic locus: LECT1 (human) mapping to 13q14.3.

PRODUCT

ChM-1 (h): 293T Lysate represents a lysate of human ChM-1 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

ChM-1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive ChM-1 antibodies. Recommended use: 10-20 μ l per lane.

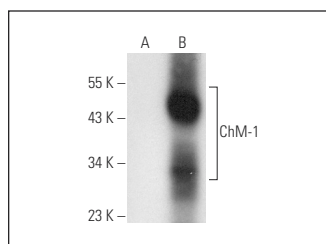
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

ChM-1 (H-10): sc-365693 is recommended as a positive control antibody for Western Blot analysis of enhanced human ChM-1 expression in ChM-1 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-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.

DATA



ChM-1 (H-10): sc-365693. Western blot analysis of ChM-1 expression in non-transfected: sc-117752 (A) and human ChM-1 transfected: sc-114096 (B) 293T whole cell lysates.

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.

RESEARCH USE

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

PROTOCOLS

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