

ChM-1 (H-10): sc-365693

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., et al. 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., et al. 1997. Inhibition of DNA synthesis and tube morphogenesis of cultured vascular endothelial cells by chondromodulin-I. *FEBS Lett.* 415: 321-324.
- Hiraki, Y., et al. 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., et al. 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 (H-10) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of ChM-1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG κ light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ChM-1 (H-10) is available conjugated to agarose (sc-365693 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365693 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365693 PE), fluorescein (sc-365693 FITC), Alexa Fluor[®] 488 (sc-365693 AF488), Alexa Fluor[®] 546 (sc-365693 AF546), Alexa Fluor[®] 594 (sc-365693 AF594) or Alexa Fluor[®] 647 (sc-365693 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365693 AF680) or Alexa Fluor[®] 790 (sc-365693 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

ChM-1 (H-10) is recommended for detection of ChM-1 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).

ChM-1 (H-10) 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.

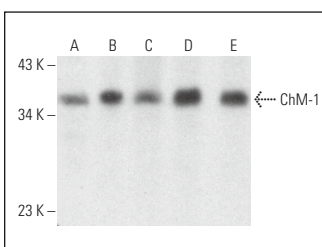
Molecular Weight of secreted ChM-1: 25 kDa.

Positive Controls: ChM-1 (h): 293T Lysate: sc-114096, NCI-H460 whole cell lysate: sc-364235 or NIH/3T3 whole cell lysate: sc-2210.

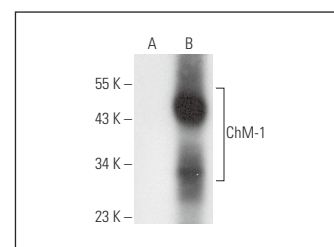
RECOMMENDED SUPPORT REAGENTS

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



ChM-1 (H-10): sc-365693. Western blot analysis of ChM-1 expression in NCI-H460 (A), NIH/3T3 (B), c4 (C), L8 (D) and RIN-m5F (E) whole cell lysates.



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 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.

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