SANTA CRUZ BIOTECHNOLOGY, INC.

ChM-1 (R-18): sc-34279

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 inter-territorial 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 TGFβ2, 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.

REFERENCES

1. 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.
2. 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.
3. 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.

CHROMOSOMAL LOCATION

Genetic locus: Lect1 (mouse) mapping to 14 D3.

SOURCE

ChM-1 (R-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ChM-1 of rat origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-34279 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ChM-1 (R-18) is recommended for detection of ChM-1 of rat and, to a lesser extent, mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 ChM-1 siRNA (m): sc-43280, ChM-1 shRNA Plasmid (m): sc-43280-SH and ChM-1 shRNA (m) Lentiviral Particles: sc-43280-V.

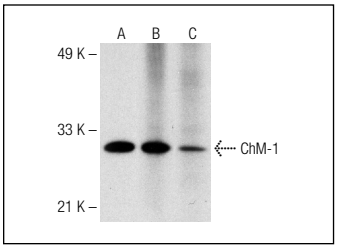
Molecular Weight of ChM-1 precursor: 37 kDa.

Molecular Weight of secreted ChM-1: 25 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



ChM-1 (R-18): sc-34279. Western blot analysis of ChM-1 expression in c4 whole cell lysate (**A**) and mouse embryo (**B**) and mouse liver (**C**) tissue extracts.

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 or our catalog for detailed protocols and support products.