

Myocardin (N-16): sc-21559

BACKGROUND

Serum response factor (SRF) is a transcription factor that binds the serum response element (SRE), a sequence that mediates the transient response of many cellular genes to growth stimulation. SRF-binding sites are also constitutive promoter elements in many muscle-specific promoters. Myocardin associates with SRF in cardiac muscle cells to activate cardiac muscle promoters. Myocardin is also expressed in smooth muscle cells and appears to play a role in cell differentiation. Specifically, myocardin is expressed in vascular smooth muscle within the aortic arteries and pulmonary outflow tract as well as in the genitourinary tract and gastrointestinal tract. Myocardin is absent in the coronary vasculature, dorsal aorta, skeletal muscle or other non-muscle tissue types. Myocardin belongs to the SAP (SAF-A/B, Acinus and PIAS) domain family of nuclear proteins which includes hnRNP U and PIAS. The SAP domain may play a role in targeting proteins to specific chromosomal locations.

REFERENCES

1. Norman, C., et al. 1988. Isolation and properties of cDNA clones encoding SRF, a transcription factor that binds to the c-Fos serum response element. *Cell* 55: 989-1003.
2. Boxer, L.M., et al. 1989. The sarcomeric actin CArG-binding factor is indistinguishable from the c-Fos serum response factor. *Mol. Cell. Biol.* 9: 515-522.
3. Treisman, R. 1990. The SRE: a growth factor responsive transcriptional regulator. *Semin. Cancer Biol.* 1: 47-58.
4. Hill, C.S., et al. 1993. Functional analysis of a growth factor-responsive transcription factor complex. *Cell* 73: 395-406.
5. Aravind, L. and Koonin, E.V. 2000. SAP—a putative DNA-binding motif involved in chromosomal organization. *Trends Biochem. Sci.* 25: 112-114.

CHROMOSOMAL LOCATION

Genetic locus: Myocd (mouse) mapping to 11 B3.

SOURCE

Myocardin (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Myocardin of mouse 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-21559 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

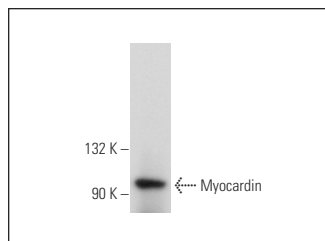
Myocardin (N-16) is recommended for detection of Myocardin of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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 Myocardin siRNA (m): sc-43954, Myocardin siRNA (r): sc-72228, Myocardin shRNA Plasmid (m): sc-43954-SH, Myocardin shRNA Plasmid (r): sc-72228-SH, Myocardin shRNA (m) Lentiviral Particles: sc-43954-V and Myocardin shRNA (r) Lentiviral Particles: sc-72228-V.

Molecular Weight of Myocardin: 96 kDa.

Positive Controls: mouse heart extract: sc-2254.

DATA



Myocardin (N-16): sc-21559. Western blot analysis of Myocardin expression in mouse heart tissue extract.

SELECT PRODUCT CITATIONS

1. Herrmann, J., et al. 2007. TGFβ up-regulates serum response factor in activated hepatic stellate cells. *Biochim. Biophys. Acta* 1772: 1250-1257.
2. Caubit, X., et al. 2008. Teashirt 3 is necessary for ureteral smooth muscle differentiation downstream of SHH and BMP4. *Development* 135: 3301-3310.
3. Jung, H., et al. 2012. Enhancer of polycomb1 lessens neointima formation by potentiation of myocardin-induced smooth muscle differentiation. *Atherosclerosis* 222: 84-91.
4. Martin, E., et al. 2013. TSHZ3 and SOX9 regulate the timing of smooth muscle cell differentiation in the ureter by reducing myocardin activity. *PLoS ONE* 8: e63721.

PROTOCOLS

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