

Myocardin (M-16): sc-21561

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 and 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., et al. 2000. SAP—a putative DNA-binding motif involved in chromosomal organization. *Trends Biochem. Sci.* 25: 112-114.
6. Wang, D., et al. 2001. Activation of cardiac gene expression by myocardin, a transcriptional cofactor for serum response factor. *Cell* 105: 851-862.

CHROMOSOMAL LOCATION

Genetic locus: MYOCD (human) mapping to 17p12; Myocd (mouse) mapping to 11 B3.

SOURCE

Myocardin (M-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-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-21561 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.

APPLICATIONS

Myocardin (M-16) is recommended for detection of Myocardin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Myocardin (M-16) is also recommended for detection of Myocardin in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Myocardin siRNA (h): sc-43953, Myocardin siRNA (m): sc-43954, Myocardin siRNA (r): sc-72228, Myocardin shRNA lasmid (h): sc-43953-SH, Myocardin shRNA Plasmid (m): sc-43954-SH, Myocardin shRNA Plasmid (r): sc-72228-SH, Myocardin shRNA (h) Lentiviral Particles: sc-43953-V, Myocardin shRNA (m) Lentiviral Particles: sc-43954-V and Myocardin shRNA (r) Lentiviral Particles: sc-72228-V.

Molecular Weight of Myocardin: 95.7 kDa.

Positive Controls: SW480 nuclear extract: sc-2155.

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) 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.

SELECT PRODUCT CITATIONS

1. Shen, J., et al. 2010. Arterial injury promotes medial chondrogenesis in Sm22 knockout mice. *Cardiovasc. Res.* 90: 28-37.
2. Chen, J., et al. 2011. Induction of microRNA-1 by myocardin in smooth muscle cells inhibits cell proliferation. *Arterioscler. Thromb. Vasc. Biol.* 31: 368-375.
3. Pfisterer, L., et al. 2012. Hypertension impairs myocardin function: a novel mechanism facilitating arterial remodelling. *Cardiovasc. Res.* 96: 120-129.

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.