

# Myocardin (A-13): sc-34238

## 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 (human) mapping to 17p12.

## SOURCE

Myocardin (A-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Myocardin of human 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-34238 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 (A-13) is recommended for detection of Myocardin of human 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 (h): sc-43953, Myocardin shRNA Plasmid (h): sc-43953-SH and Myocardin shRNA (h) Lentiviral Particles: sc-43953-V.

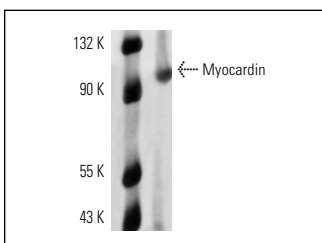
Molecular Weight of Myocardin: 95.7 kDa.

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) 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



Myocardin (A-13): sc-34238. Western blot analysis of Myocardin expression in SW480 nuclear extract.

## SELECT PRODUCT CITATIONS

1. Pérot, G., et al. 2009. Strong smooth muscle differentiation is dependent on myocardin gene amplification in most human retroperitoneal leiomyosarcomas. *Cancer Res.* 69: 2269-2278.
2. Margariti, A., et al. 2009. Splicing of HDAC7 modulates the SRF-myocardin complex during stem-cell differentiation towards smooth muscle cells. *J. Cell Sci.* 122: 460-470.
3. Long, X., et al. 2009. The smooth muscle cell-restricted KCNB1 ion channel subunit is a direct transcriptional target of serum response factor and myocardin. *J. Biol. Chem.* 284: 33671-33682.