SANTA CRUZ BIOTECHNOLOGY, INC.

MRTF-A (G-7): sc-398675

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 regulates the transient response of several muscle genes in response to growth factors and recruits accessory myogenic factors to activate these muscle genes. SRF is required for the formation of vertebrate mesoderm leading to the origin of the cardiovascular system. Myocardin, in association with SRF in cardiac muscle cells, activates cardiac muscle promoters. Myocardin-related transcription factor A (MRTF-A), also known as MKL1, interacts with SRF and stimulates its transcriptional activity.

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. Treisman, R. 1990. The SRE: a growth factor responsive transcriptional regulator. Semin. Cancer Biol. 1: 47-58.

CHROMOSOMAL LOCATION

Genetic locus: MKL1 (human) mapping to 22q13.1; Mkl1 (mouse) mapping to 15 E1.

SOURCE

MRTF-A (G-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 905-931 at the C-terminus of MRTF-A of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398675 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

MRTF-A (G-7) is recommended for detection of MRTF-A of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 MRTF-A siRNA (h): sc-43944, MRTF-A siRNA (m): sc-149641, MRTF-A shRNA Plasmid (h): sc-43944-SH, MRTF-A shRNA Plasmid (m): sc-149641-SH, MRTF-A shRNA (h) Lentiviral Particles: sc-43944-V and MRTF-A shRNA (m) Lentiviral Particles: sc-149641-V.

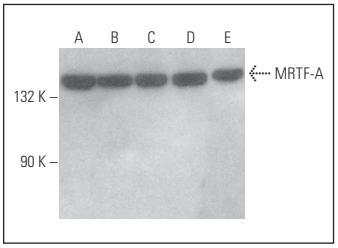
Molecular Weight of MRTF-A: 160 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa nuclear extract: sc-2120 or HEK293 whole cell lysate: sc-45136.

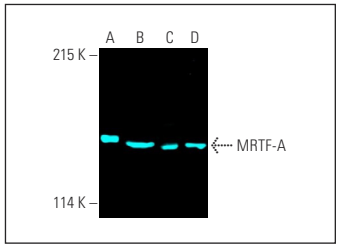
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



MRTF-A (G-7): sc-398675. Western blot analysis of MRTF-A expression in Hep G2 (**A**), HEK293 (**B**), HUV-EC-C (**C**) and CCRF-CEM (**D**) whole cell lysates and HeLa nuclear extract (**E**).



MRTF-A (G-7) Alexa Fluor® 647: sc-398675 AF647. Direct fluorescent western blot analysis of MRTF-A expression in Hep G2 (**A**), Jurkat (**B**) and NIH/3T3 (**C**) whole cell lysates and A549 nuclear extract (**D**). Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

1. Hashemi Gheinani, A., et al. 2015. MicroRNA MiR-199a-5p regulates smooth muscle cell proliferation and morphology by targeting WNT2 signaling pathway. J. Biol. Chem. 290: 7067-7086.
2. Hadden, W.J., et al. 2017. Stem cell migration and mechanotransduction on linear stiffness gradient hydrogels. Proc. Natl. Acad. Sci. USA 114: 5647-5652.
3. Zhang, Z., et al. 2018. PHACTR1 regulates oxidative stress and inflammation to coronary artery endothelial cells via interaction with NFκB/p65. Atherosclerosis 278: 180-189.
4. Zhang, L., et al. 2019. Long non-coding RNA urothelial cancer associated 1 can regulate the migration and invasion of colorectal cancer cells (SW480) via Myocardin-related transcription factor-A. Oncol. Lett. 18: 4185-4193.
5. Shi, Z., et al. 2020. Myocardin and myocardin-related transcription factor-A synergistically mediate Actin cytoskeletal dependent inhibition of liver fibrogenesis. Am. J. Physiol. Gastrointest. Liver Physiol. 318: G504-G517.
6. Wu, B., et al. 2020. Radar emitter signal recognition based on one-dimensional convolutional neural network with attention mechanism. Sensors 20: 6350.
7. Zhang, M., et al. 2021. p38α in macrophages aggravates arterial endothelium injury by releasing IL-6 through phosphorylating megakaryocytic leukemia 1. Redox Biol. 38: 101775.
8. Heib, T., et al. 2021. RhoA/Cdc42 signaling drives cytoplasmic maturation but not endomitosis in megakaryocytes. Cell Rep. 35: 109102.
9. Speight, P., et al. 2021. Myocardin-related transcription factor and serum response factor regulate cilium turnover by both transcriptional and local mechanisms. iScience 24: 102739.

RESEARCH USE

For research use only, not for use in diagnostic procedures.