

Mts1 (X9-7): sc-100784

BACKGROUND

The Mts1 gene encodes a small acidic Ca²⁺-binding protein, Mts1 (also designated S100A4, calvasculin or metastasin). Mts1 belongs to the S100 family of small Ca²⁺-binding proteins and is expressed in a cell-specific manner. Mts1 protein is involved in tumor progression and metastasis, and also has a significant stimulatory effect on angiogenesis. The level of Mts1 protein in serum increases with aging, suggesting that Mts1 may play a role in the induction of tumor progression via stimulation of angiogenesis. In addition, Mts1 cooperates with p53 in apoptosis induction by binding to the C-terminal regulatory domain of p53 to inhibit the DNA binding activity of p53. The ability of Mts1 to enhance p53-dependent apoptosis may accelerate the loss of p53 function in tumors. Thus, Mts1 can contribute to the development of a more aggressive phenotype during tumor progression.

REFERENCES

1. Watanabe, Y., et al. 1993. Calvasculin, as a factor affecting the microfilament assemblies in rat fibroblasts transfected by Src gene. *FEBS Lett.* 324: 51-55.
2. Schafer, B.W., et al. 1996. The S100 family of EF-hand calcium-binding proteins: functions and pathology. *Trends Biochem. Sci.* 21: 134-140.
3. Ambartsumian, N., et al. 2001. The metastasis-associated Mts1 (S100A4) protein could act as an angiogenic factor. *Oncogene* 20: 4685-4695.

CHROMOSOMAL LOCATION

Genetic locus: S100A4 (human) mapping to 1q21.3; S100a4 (mouse) mapping to 3 F1.

SOURCE

Mts1 (X9-7) is a mouse monoclonal antibody raised against recombinant Mts1 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Mts1 (X9-7) is recommended for detection of Mts1 of mouse, rat and 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 Mts1 siRNA (h): sc-106781, Mts1 siRNA (m): sc-149694, Mts1 shRNA Plasmid (h): sc-106781-SH, Mts1 shRNA Plasmid (m): sc-149694-SH, Mts1 shRNA (h) Lentiviral Particles: sc-106781-V and Mts1 shRNA (m) Lentiviral Particles: sc-149694-V.

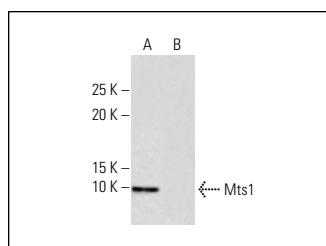
Molecular Weight of Mts1: 11 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or human Mts1 transfected 293T whole cell lysate.

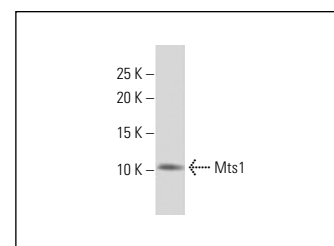
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Mts1 (X9-7): sc-100784 Western blot analysis of Mts1 expression in human Mts1 transfected (A) and non-transfected (B) 293T whole cell lysates.



Mts1 (X9-7): sc-100784. Western blot analysis of Mts1 expression in HeLa whole cell lysate.

SELECT PRODUCT CITATIONS

1. Mitterberger, M.C., et al. 2012. DLK1(PREF1) is a negative regulator of adipogenesis in CD105+/CD90+/CD34+/CD31-/FABP4- adipose-derived stromal cells from subcutaneous abdominal fat pads of adult women. *Stem Cell Res.* 9: 35-48.
2. Pickard, A., et al. 2012. Inactivation of Rb in stromal fibroblasts promotes epithelial cell invasion. *EMBO J.* 31: 3092-3103.
3. Mizuguchi, Y., et al. 2012. Cooperation of p300 and PCAF in the control of microRNA 200c/141 transcription and epithelial characteristics. *PLoS ONE* 7: e32449.
4. Cichon, A.C., et al. 2013. Akt in stromal fibroblasts controls invasion of epithelial cells. *Oncotarget* 4: 1103-1116.
5. Gianni-Barrera, R., et al. 2018. PDGF-BB regulates splitting angiogenesis in skeletal muscle by limiting VEGF-induced endothelial proliferation. *Angiogenesis* 21: 883-900.
6. Du, J.K., et al. 2021. A novel role of kallikrein-related peptidase 8 in the pathogenesis of diabetic cardiac fibrosis. *Theranostics* 11: 4207-4231.

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.