

Mts1 (R-18): sc-19948

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 micro-filament 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.
4. Grigorian, M., et al. 2001. Tumor suppressor p53 protein is a new target for the metastasis-associated Mts1/S100A4 protein: functional consequences of their interaction. J. Biol. Chem. 276: 22699-22708.
5. Cohn, M.A., et al. 2001. Characterization of Sp1, AP-1, CBP and KRC binding sites and minisatellite DNA as functional elements of the metastasis-associated mts1/S100A4 gene intronic enhancer. Nucleic Acids Res. 29: 3335-3346.
6. Tarabykina, S., et al. 2001. The dimerization interface of the metastasis-associated protein S100A4 (Mts1): *in vivo* and *in vitro* studies. J. Biol. Chem. 276: 24212-24222.

CHROMOSOMAL LOCATION

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

SOURCE

Mts1 (R-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Mts1 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-19948 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

Mts1 (R-18) 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).

Mts1 (R-18) is also recommended for detection of Mts1 in additional species, including equine, canine and porcine.

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.

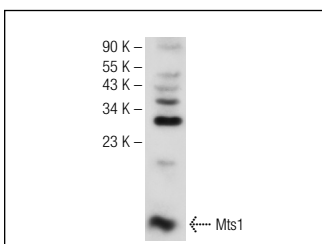
Molecular Weight of Mts1: 11 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

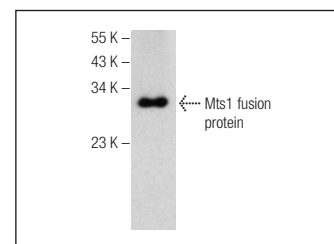
RECOMMENDED SECONDARY REAGENTS

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



Mts1 (R-18): sc-19948. Western blot analysis of Mts1 expression in HeLa whole cell lysate.



Mts1 (R-18): sc-19948. Western blot analysis of human recombinant Mts1 fusion protein.

STORAGE

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

MONOS
Satisfaction
Guaranteed

Try **Mts1 (A-7): sc-377059** or **Mts1 (X9-7): sc-100784**, our highly recommended monoclonal alternatives to Mts1 (R-18).