

# MTSS1 (E-16): sc-87320

## BACKGROUND

MTSS1 (metastasis suppressor 1), also known as MIM, MIMA or MIMB, is a 755 amino acid protein that contains one Actin-binding WH2 (Wiskott-Aldrich syndrome protein homology-2) domain and one IMD domain. Expressed in a variety of tissues including testes, thymus, prostate, spleen, colon, uterus and blood, MTSS1 is thought to bind to Actin and, via this binding, may affect the dynamics of the cytoskeleton. Through its association with the cytoskeleton, MTSS1 plays a role in controlling the progression and metastasis of carcinomas in various organ sites throughout the body and, when expressed at normal levels, functions as a tumor suppressor. Overexpression of MTSS1 results in the formation of abnormal Actin structures, an event that may lead to tumorigenesis. Three isoforms of MTSS1 exist due to alternative splicing events.

## REFERENCES

- Lee, Y.G., Macoska, J.A., Korenchuk, S. and Pienta, K.J. 2002. MIM, a potential metastasis suppressor gene in bladder cancer. *Neoplasia* 4: 291-294.
- Woodings, J.A., Sharp, S.J. and Machesky, L.M. 2003. MIM-B, a putative metastasis suppressor protein, binds to Actin and to protein tyrosine phosphatase  $\delta$ . *Biochem. J.* 371: 463-471.
- Mattila, P.K., Salminen, M., Yamashiro, T. and Lappalainen, P. 2003. Mouse MIM, a tissue-specific regulator of cytoskeletal dynamics, interacts with ATP-Actin monomers through its C-terminal WH2 domain. *J. Biol. Chem.* 278: 8452-8459.
- Nixdorf, S., Grimm, M.O., Loberg, R., Marreiros, A., Russell, P.J., Pienta, K.J. and Jackson, P. 2004. Expression and regulation of MIM (missing in metastasis), a novel putative metastasis suppressor gene, and MIM-B, in bladder cancer cell lines. *Cancer Lett.* 215: 209-220.
- Callahan, C.A., Ofstad, T., Horng, L., Wang, J.K., Zhen, H.H., Coulombe, P.A. and Oro, A.E. 2004. MIM/BEG4, a Sonic hedgehog-responsive gene that potentiates Gli-dependent transcription. *Genes Dev.* 18: 2724-2729.
- Gonzalez-Quevedo, R., Shoffer, M., Horng, L. and Oro, A.E. 2005. Receptor tyrosine phosphatase-dependent cytoskeletal remodeling by the hedgehog-responsive gene MIM/BEG4. *J. Cell Biol.* 168: 453-463.
- Bompard, G., Sharp, S.J., Freiss, G. and Machesky, L.M. 2005. Involvement of Rac in Actin cytoskeleton rearrangements induced by MIM-B. *J. Cell Sci.* 118: 5393-5403.

## CHROMOSOMAL LOCATION

Genetic locus: MTSS1 (human) mapping to 8q24.13; *Mtss1* (mouse) mapping to 15 D1.

## SOURCE

MTSS1 (E-16) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of MTSS1 of human origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-87320 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MTSS1 (E-16) is recommended for detection of MTSS1 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).

MTSS1 (E-16) is also recommended for detection of MTSS1 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for MTSS1 siRNA (h): sc-77651, MTSS1 siRNA (m): sc-149695, MTSS1 shRNA Plasmid (h): sc-77651-SH, MTSS1 shRNA Plasmid (m): sc-149695-SH, MTSS1 shRNA (h) Lentiviral Particles: sc-77651-V and MTSS1 shRNA (m) Lentiviral Particles: sc-149695-V.

Molecular Weight of MTSS1: 82 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **MTSS1 (M7-P3A7): sc-101390**, our highly recommended monoclonal alternative to MTSS1 (E-16).