

MTSS1 (SS-3): sc-101204



The Power to Question

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., et al. 2002. MIM, a potential metastasis suppressor gene in bladder cancer. *Neoplasia* 4: 291-294.
- Woodings, J.A., et al. 2003. MIM-B, a putative metastasis suppressor protein, binds to Actin and to protein tyrosine phosphatase δ . *Biochem. J.* 371: 463-471.
- Mattila, P.K., et al. 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.

CHROMOSOMAL LOCATION

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

SOURCE

MTSS1 (SS-3) is a mouse monoclonal antibody raised against recombinant MTSS1 of human origin.

PRODUCT

Each vial contains 50 μ g IgG₁ kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MTSS1 (SS-3) 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), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 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.

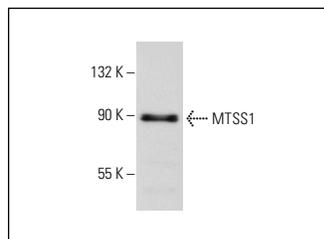
Molecular Weight of MTSS1: 82 kDa.

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

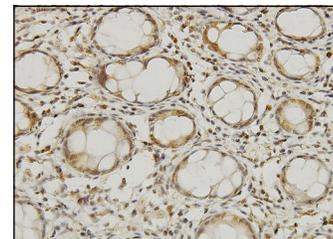
STORAGE

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

DATA



MTSS1 (SS-3): sc-101204. Western blot analysis of MTSS1 expression in NIH/3T3 whole cell lysate.



MTSS1 (SS-3): sc-101204. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human colon tissue showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Zhao, W., et al. 2011. Suppression of lung cancer cell invasion and metastasis by connexin43 involves the secretion of follistatin-like 1 mediated via histone acetylation. *Int. J. Biochem. Cell Biol.* 43: 1459-1468.
- Yan, M.D., et al. 2015. Fucoidan elevates MicroRNA-29b to regulate DNMT3B-MTSS1 axis and inhibit EMT in human hepatocellular carcinoma cells. *Mar. Drugs* 13: 6099-6116.
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- Xie, W., et al. 2018. miR-96 promotes breast cancer metastasis by suppressing MTSS1. *Oncol. Lett.* 15: 3464-3471.
- Xu, M. and Xu, T. 2018. Expression and clinical significance of miR-23a and MTSS1 in diffuse large B-cell lymphoma. *Oncol. Lett.* 16: 371-377.
- Zhang, S. and Guo, W. 2019. Long non-coding RNA MEG3 suppresses the growth of glioma cells by regulating the miR-96-5p/MTSS1 signaling pathway. *Mol. Med. Rep.* 20: 4215-4225.
- Adamus, A., et al. 2020. SGPL1₃₂₁ mutation: one main trigger for invasiveness of pediatric alveolar rhabdomyosarcoma. *Cancer Gene Ther.* 27: 571-584.
- Li, Z., et al. 2020. miRNA-182 regulated MTSS1 inhibits proliferation and invasion in glioma cells. *J. Cancer* 11: 5840-5851.
- Liu, X., et al. 2020. Exosomal miR-29b from cancer-associated fibroblasts inhibits the migration and invasion of hepatocellular carcinoma cells. *Transl. Cancer Res.* 9: 2576-2587.
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RESEARCH USE

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