SANTA CRUZ BIOTECHNOLOGY, INC.

MTSS1 (H-105): sc-98367

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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

1. Lee, Y.G., et al. 2002. MIM, a potential metastasis suppressor gene in bladder cancer. Neoplasia 4: 291-294.
2. 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.
3. 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.
4. Nixdorf, S., et al. 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.
5. Callahan, C.A., et al. 2004. MIM/BEG4, a Sonic hedgehog-responsive gene that potentiates Gli-dependent transcription. Genes Dev. 18: 2724-2729.
6. Gonzalez-Quevedo, R., et al. 2005. Receptor tyrosine phosphatase-dependent cytoskeletal remodeling by the hedgehog-responsive gene MIM/BEG4. J. Cell Biol. 168: 453-463.
7. Bompard, G., et al. 2005. Involvement of Rac in Actin cytoskeleton rearrangements induced by MIM-B. J. Cell Sci. 118: 5393-5403.
8. Utikal, J., et al. 2006. The expression of metastasis suppressor MIM/MTSS1 is regulated by DNA methylation. Int. J. Cancer 119: 2287-2293.

CHROMOSOMAL LOCATION

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

SOURCE

MTSS1 (H-105) is a rabbit polyclonal antibody raised against amino acids 626-730 mapping near the C-terminus of MTSS1 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.

APPLICATIONS

MTSS1 (H-105) 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 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).

MTSS1 (H-105) 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

SELECT PRODUCT CITATIONS

1. Du, P., et al. 2012. The tumour suppressive role of Metastasis Suppressor-1, MTSS1, in human kidney cancer, a possible connection with the SHH pathway. J. Exp. Ther. Oncol. 10: 91-99.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.