

Mts1 (A-7): sc-377059



The Power to Question

BACKGROUND

The Mts1 gene encodes a small acidic Ca^{2+} -binding protein, Mts1 (also designated S100A4, calvasculin or metastasin). Mts1 belongs to the S100 family of small Ca^{2+} -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.

CHROMOSOMAL LOCATION

Genetic locus: S100A4 (human) mapping to 1q21.3.

SOURCE

Mts1 (A-7) is a mouse monoclonal antibody raised against amino acids 44-101 mapping at the C-terminus of Mts1 of human origin.

PRODUCT

Each vial contains 200 μg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Mts1 (A-7) is available conjugated to agarose (sc-377059 AC), 500 μg /0.25 ml agarose in 1 ml, for IP; to HRP (sc-377059 HRP), 200 μg /ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377059 PE), fluorescein (sc-377059 FITC), Alexa Fluor® 488 (sc-377059 AF488), Alexa Fluor® 546 (sc-377059 AF546), Alexa Fluor® 594 (sc-377059 AF594) or Alexa Fluor® 647 (sc-377059 AF647), 200 μg /ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377059 AF680) or Alexa Fluor® 790 (sc-377059 AF790), 200 μg /ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Mts1 (A-7) is recommended for detection of Mts1 of human origin by Western Blotting (starting dilution 1:100, 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), 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).

Mts1 (A-7) is also recommended for detection of Mts1 in additional species, including porcine.

Suitable for use as control antibody for Mts1 siRNA (h): sc-106781, Mts1 shRNA Plasmid (h): sc-106781-SH and Mts1 shRNA (h) Lentiviral Particles: sc-106781-V.

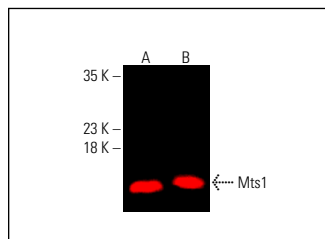
Molecular Weight of Mts1: 11 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or A549 cell lysate: sc-2413.

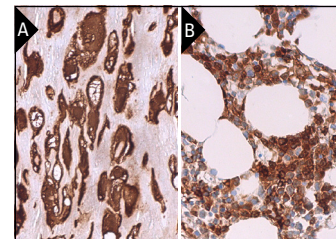
STORAGE

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

DATA



Mts1 (A-7): sc-377059. Near-Infrared western blot analysis of Mts1 expression in HeLa (A) and A549 (B) whole cell lysates. Blocked with UltraCruz® Blocking Reagent; sc-516214. Detection reagent used: m-IgG_{2a} BP-CFL 790: sc-542740.



Mts1 (A-7): sc-377059. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic and nuclear staining of decidual cells (A). Immunoperoxidase staining of for-malin fixed, paraffin-embedded human bone marrow tissue showing cytoplasmic and nuclear staining of hematopoietic cells (B).

SELECT PRODUCT CITATIONS

- Gonzalez, L., et al. 2016. Gene expression profile of normal and cancer-associated fibroblasts according to intratumoral inflammatory cells phenotype from breast cancer tissue. *Mol. Carcinog.* 55: 1489-1502.
- Cordero-Alba, M., et al. 2016. Proteomic insight into the effects of the *Salmonella* ubiquitin ligase SlrP on host cells. *Biochem. Biophys. Res. Commun.* 472: 539-544.
- Xia, H., et al. 2017. Calcium-binding protein S100A4 confers mesenchymal progenitor cell fibrogenicity in idiopathic pulmonary fibrosis. *J. Clin. Invest.* 127: 2586-2597.
- Gómez-Contreras, P., et al. 2017. Extracellular matrix 1 (ECM1) regulates the Actin cytoskeletal architecture of aggressive breast cancer cells in part via S100A4 and Rho-family GTPases. *Clin. Exp. Metastasis* 34: 37-49.
- Nakayama, J., et al. 2021. A zebrafish embryo screen utilizing gastrulation identifies the HTR2C inhibitor pizotifen as a suppressor of EMT-mediated metastasis. *Elife* 10: e70151.
- Ivanovski, N., et al. 2023. L-citrulline attenuates lipopolysaccharide-induced inflammatory lung injury in neonatal rats. *Pediatr. Res.* 94: 1684-1695.

RESEARCH USE

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

PROTOCOLS

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