SANTA CRUZ BIOTECHNOLOGY, INC.

MTA2 (F-9): sc-55566

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

MTA1 (metastasis-associated protein 1) is a component of the NURD (nucleosome remodeling and histone deacetylation) complex, which is associated with ATP-dependent chromatin-remodeling and histone deacetylase activity. MTA1 functions in conjunction with other components of NURD to mediate transcriptional repression as it facilitates the association of repressor molecules with the chromatin. Structurally, MTA1 contains a single SH3-binding motif and a zinc finger domain, along with a region similar to the co-repressor protein N-Cor. MTA1 is normally expressed at low levels in various tissues and is more highly expressed in testis. Overexpression of MTA1 correlates with tumor invasion and metastasis in various carcinomas including colorectal, gastrointestinal and breast carcinomas. Elevation of MTA1 levels in these tumors appears to enhance the metastases to lymph nodes, increase mammary cell motility and potentiate growth, and therefore may be an indicator for assessing the potential malignancies of various tumors. A similar protein, MTA2, also designated MTA1-L1 (MTA1-like protein 1), shares more than 55% sequence homology with MTA1 and is ubiquitously expressed.

REFERENCES

1. Toh, Y., et al. 1994. A novel candidate metastasis-associated gene, MTA1, differentially expressed in highly metastatic mammary adenocarcinoma cell lines. cDNA cloning, expression and protein analyses. J. Biol. Chem. 269: 22958-22963.
2. Toh, Y., et al. 1995. Analysis of the complete sequence of the novel metastasis-associated candidate gene, MTA1, differentially expressed in mammary adenocarcinoma and breast cancer cell lines. Gene 159: 97-104.

CHROMOSOMAL LOCATION

Genetic locus: MTA2 (human) mapping to 11q12.3; Mta2 (mouse) mapping to 19 A.

SOURCE

MTA2 (F-9) is a mouse monoclonal antibody raised against amino acids 499-668 mapping at the C-terminus of MTA2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MTA2 (F-9) is available conjugated to agarose (sc-55566 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-55566 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-55566 PE), fluorescein (sc-55566 FITC), Alexa Fluor® 488 (sc-55566 AF488), Alexa Fluor® 546 (sc-55566 AF546), Alexa Fluor® 594 (sc-55566 AF594) or Alexa Fluor® 647 (sc-55566 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-55566 AF680) or Alexa Fluor® 790 (sc-55566 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

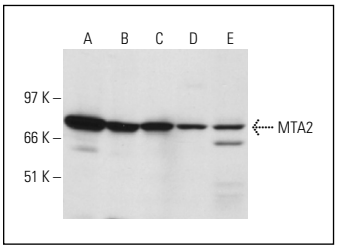
MTA2 (F-9) is recommended for detection of MTA2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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).

Suitable for use as control antibody for MTA2 siRNA (h): sc-35983, MTA2 siRNA (m): sc-35984, MTA2 shRNA Plasmid (h): sc-35983-SH, MTA2 shRNA Plasmid (m): sc-35984-SH, MTA2 shRNA (h) Lentiviral Particles: sc-35983-V and MTA2 shRNA (m) Lentiviral Particles: sc-35984-V.

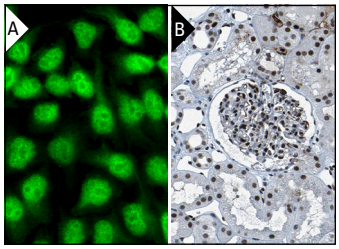
Molecular Weight of MTA2: 75 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, NIH/3T3 nuclear extract: sc-2138 or KNRK nuclear extract: sc-2141.

DATA



MTA2 (F-9): sc-55566. Western blot analysis of MTA2 expression in HeLa (**A**), NIH/3T3 (**B**) and KNRK (**C**) nuclear extracts and ZR-75-1 (**D**) and SK-BR-3 (**E**) whole cell lysates.



MTA2 (F-9): sc-55566. Immunofluorescence staining of formalin-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing nuclear staining of cells in glomeruli and tubules. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Liu, Y.P., et al. 2012. Correlation between MTA2 overexpression and tumour progression in esophageal squamous cell carcinoma. Exp. Ther. Med. 3: 745-749.
2. Chu, J. 2019. MicroRNA-589 serves as a tumor suppressor microRNA through directly targeting metastasis-associated protein 2 in breast cancer. Oncol. Lett. 18: 2232-2239.
3. Lin, C.L., et al. 2020. Transcriptional suppression of miR-7 by MTA2 induces Sp1-mediated KLK10 expression and metastasis of cervical cancer. Mol. Ther. Nucleic Acids 20: 699-710.
4. Yang, J., et al. 2021. TRPS1 drives heterochromatic origin refiring and cancer genome evolution. Cell Rep. 34: 108814.

RESEARCH USE

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