SANTA CRUZ BIOTECHNOLOGY, INC.

MTA1 (H-166): sc-10813

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The Power to Question

BACKGROUND

MTA1 (metastasis-associated protein 1) is a component of the NURD (for 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. Elevated MTA1 levels in these tumors appears to enhance the metastases to lymph nodes, increase mammary cell motility and potentiate growth, and it may, therefore, be an indicator for assessing the potential malignancies of various tumors. A similar protein, MTA1-L1 (MTA1-like protein 1), shares more than 55% sequence homology with MTA1 and is ubiquitously expressed.

CHROMOSOMAL LOCATION

Genetic locus: MTA1 (human) mapping to 14q32.33; Mta1 (mouse) mapping to 12 F1.

SOURCE

MTA1 (H-166) is a rabbit polyclonal antibody raised against amino acids 513-678 of MTA1 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.

Available as TransCruz reagent for ChIP application, sc-10813 X, 200 µg/0.1 ml.

APPLICATIONS

MTA1 (H-166) is recommended for detection of MTA1 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).

MTA1 (H-166) is also recommended for detection of MTA1 in additional species, including equine and canine.

Suitable for use as control antibody for MTA1 siRNA (h): sc-35981, MTA1 siRNA (m): sc-35982, MTA1 shRNA Plasmid (h): sc-35981-SH, MTA1 shRNA Plasmid (m): sc-35982-SH, MTA1 shRNA (h) Lentiviral Particles: sc-35981-V and MTA1 shRNA (m) Lentiviral Particles: sc-35982-V.

MTA1 (H-166) X TransCruz antibody is recommended for ChIP assays.

Molecular Weight of MTA1: 80 kDa.

Positive Controls: T-47D cell lysate: sc-2293, ZR-75-1 cell lysate: sc-2241 or MCF7 whole cell lysate: sc-2206.

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. Liu, X.F., et al. 2004. Recruitment of distinct chromatin-modifying complexes by tamoxifen-complexed estrogen receptor at natural target gene promoters *in vivo*. J. Biol. Chem. 279: 15050-15058.
2. Balasenthil, S., et al. 2006. Expression of metastasis-associated protein 1 (MTA1) in benign endometrium and endometrial adenocarcinomas. Hum. Pathol. 37: 656-661.
3. Zhang, H., et al. 2006. Metastasis tumor antigen family proteins during breast cancer progression and metastasis in a reliable mouse model for human breast cancer. Clin. Cancer Res. 12: 1479-1486.
4. Sridharan, R., et al. 2007. Predominant interaction of both Ikaros and Helios with the NuRD complex in immature thymocytes. J. Biol. Chem. 282: 30227-30238.
5. Cui, S., et al. 2011. Nuclear receptors TR2 and TR4 recruit multiple epigenetic transcriptional co-repressors that associate specifically with the embryonic β-type globin promoters in differentiated adult erythroid cells. Mol. Cell. Biol. 31: 3298-3311.
6. Kotb, A.M., et al. 2011. Replacement of E-cadherin by N-cadherin in the mammary gland leads to fibrocystic changes and tumor formation. Breast Cancer Res. 13: R104.
7. Sacilotto, N., et al. 2011. Epigenetic transcriptional regulation of the growth arrest-specific gene 1 (Gas1) in hepatic cell proliferation at mononucleosomal resolution. PLoS ONE 6: e23318.

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.