SANTA CRUZ BIOTECHNOLOGY, INC.

MTA1 (A-18): sc-9445

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; MTA1 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 (A-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus 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.

Blocking peptide available for competition studies, sc-9445 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MTA1 (A-18) 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).

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.

Molecular Weight of MTA1: 80 kDa.

Positive Controls: T-47D cell lysate: sc-2293, ZR-75-1 cell lysate: sc-2241 or SW480 cell lysate: sc-2219.

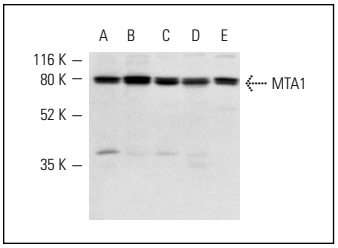
STORAGE

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.

DATA



MTA1 (C-17): sc-9446. Western blot analysis of MTA1 expression in T-47D (**A**), ZR-75-1 (**B**) and SW480 (**C**) whole cell lysates and mouse (**D**) and rat (**E**) testis extracts.

SELECT PRODUCT CITATIONS

1. Yan, C., et al. 2003. Repression of 92 kDa type IV collagenase expression by MTA1 is mediated through direct interactions with the promoter via a mechanism which is both dependent on and independent of histone deacetylation. J. Biol. Chem. 278: 2309-2316.
2. Jin, S.G., et al. 2005. MBD3L2 interacts with MBD3 and components of the NuRD complex and can oppose MBD2-MeCP1-mediated methylation silencing. J. Biol. Chem. 280: 12700-12709.
3. Hong, W., et al. 2005. FOG-1 recruits the NURD repressor complex to mediate transcriptional repression by GATA-1. EMBO J. 24: 2367-2378.
4. Yoo, Y.G., et al. 2006. Metastasis-associated protein 1 enhances stability of hypoxia-inducible factor-1α protein by recruiting histone deacetylase 1. EMBO J. 25: 1231-1241.
5. Manavathi, B., et al. 2007. Repression of Six3 by a corepressor regulates rhodopsin expression. Proc. Natl. Acad. Sci. USA 104: 13128-13133.
6. Qian, H., et al. 2007. RNA interference of metastasis-associated gene 1 inhibits metastasis of B16F10 melanoma cells in a C57BL/6 mouse model. Biol. Cell 99: 573-581.
7. Van Rechem, C., et al. 2010. Differential regulation of HIC1 target genes by CtBP and NuRD, via an acetylation/SUMOylation switch, in quiescent versus proliferating cells. Mol. Cell. Biol. 30: 4045-4059.
8. van den Berg, D.L., et al. 2010. An Oct4-centered protein interaction network in embryonic stem cells. Cell Stem Cell 6: 369-381.
9. Ma, P., et al. 2010. Metastasis tumor antigen 2 (MTA2) is involved in proper imprinted expression of H19 and Peg3 during mouse preimplantation development. Biol. Reprod. 83: 1027-1035.

PROTOCOLS

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