

# MTA1 (C-17): sc-9446

## 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 (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at 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-9446 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MTA1 (C-17) 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), 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).

MTA1 (C-17) is also recommended for detection of MTA1 in additional species, including equine.

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.

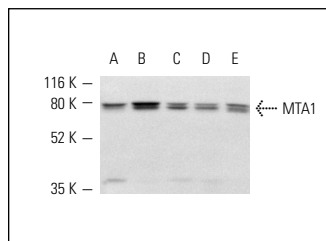
## RESEARCH USE

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

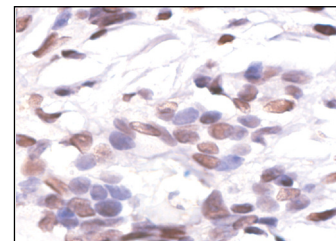
## STORAGE

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

## 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) testes extracts.



MTA1 (C-17): sc-9446. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast tumor showing nuclear staining.

## SELECT PRODUCT CITATIONS

- Qian, H., et al. 2005. Reduced MTA1 expression by RNAi inhibits *in vitro* invasion and migration of esophageal squamous cell carcinoma cell line. *Clin. Exp. Metastasis* 22: 653-662.
- Roche, A.E., et al. 2008. The zinc finger and C-terminal domains of MTA proteins are required for FOG-2-mediated transcriptional repression via the NuRD complex. *J. Mol. Cell. Cardiol.* 44: 352-360.
- Li, S.H., et al. 2009. Metastasis-associated protein 1 (MTA1) overexpression is closely associated with shorter disease-free interval after complete resection of histologically node-negative esophageal cancer. *World J. Surg.* 33: 1876-1881.
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- Miccio, A., et al. 2010. NuRD mediates activating and repressive functions of GATA-1 and FOG-1 during blood development. *EMBO J.* 29: 442-456.
- Li, D.Q., et al. 2010. Revelation of p53-independent function of MTA1 in DNA damage response via modulation of the p21 WAF1-proliferating cell nuclear antigen pathway. *J. Biol. Chem.* 285: 10044-10052.
- Li, D.Q., et al. 2010. Requirement of MTA1 in ATR-mediated DNA damage checkpoint function. *J. Biol. Chem.* 285: 19802-19812.
- Li, S.H., et al. 2011. Overexpression of metastasis-associated protein 1 is significantly correlated with tumor angiogenesis and poor survival in patients with early-stage non-small cell lung cancer. *Ann. Surg. Oncol.* 18: 2048-2056.
- Du, B., et al. 2011. Metastasis-associated protein 1 induces VEGF-C and facilitates lymphangiogenesis in colorectal cancer. *World J. Gastroenterol.* 17: 1219-1226.
- Dias, S.J., et al. 2013. Nuclear MTA1 overexpression is associated with aggressive prostate cancer, recurrence and metastasis in African Americans. *Sci. Rep.* 3: 2331.