SANTA CRUZ BIOTECHNOLOGY, INC.

MTA3 (428C2a): sc-81325

BACKGROUND

Metastasis-associated protein 3 (MTA3) is a subunit of the Mi-2/NuRD transcriptional corepressor complex. MTA3 and the Mi-2/NuRD complex mediate repression of Snail in breast cancer cells where MTA3 works to maintain a differentiated, epithelial status. The protein is involved in gene expression regulation by covalent modifications of histone proteins. There are two known isoforms of MTA3, a short and a long form. The short isoform binds to ER and sequesters it to the cytoplasm and betters non-genomic responses, whereas the long form is found in the nucleus. MTA3 is widely expressed in with highest expression in brain, adrenal glands, ovaries and virgin mammary glands. It has been found to be expressed in higher levels in tumors than in adjacent normal tissue in the same individual.

REFERENCES

1. Fujita, N., et al. 2003. MTA3, a Mi-2/NuRD complex subunit, regulates an invasive growth pathway in breast cancer. Cell 113: 207-219.
2. Yao, Y.L., et al. 2003. The metastasis-associated proteins 1 and 2 form distinct protein complexes with histone deacetylase activity. J. Biol. Chem. 278: 42560-42568.
3. Fujita, N., et al. 2004. Hormonal regulation of metastasis-associated protein 3 transcription in breast cancer cells. Mol. Endocrinol. 18: 2937-2949.
4. Fujita, N., et al. 2004. MTA3 and the Mi-2/NuRD complex regulate cell fate during B lymphocyte differentiation. Cell 119: 75-86.

CHROMOSOMAL LOCATION

Genetic locus: MTA3 (human) mapping to 2p21.

SOURCE

MTA3 (428C2a) is a mouse monoclonal antibody raised against a partial recombinant protein corresponding to a region near the N-terminus of MTA3 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.1% stabilizer protein.

APPLICATIONS

MTA3 (428C2a) is recommended for detection of MTA3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for MTA3 siRNA (h): sc-43948, MTA3 shRNA Plasmid (h): sc-43948-SH and MTA3 shRNA (h) Lentiviral Particles: sc-43948-V.

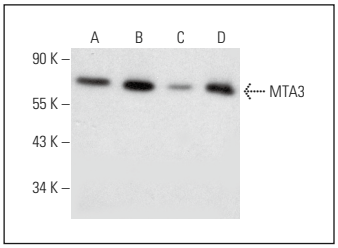
Molecular Weight of MTA3: 60 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, MTA3 (h): 293T Lysate: sc-116543 or MCF7 nuclear extract: sc-2149.

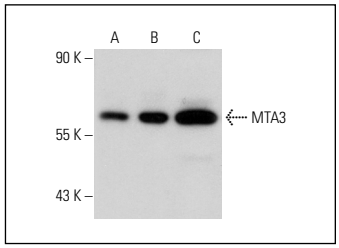
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



MTA3 (428C2a): sc-81325. Western blot analysis of MTA3 expression in HeLa (**A**), Ramos (**B**), Jurkat (**C**) and Raji (**D**) whole cell lysates.



MTA3 (428C2a): sc-81325. Western blot analysis of MTA3 expression in non-transfected: sc-117752 (**A**) and human MTA3 transfected: sc-116543 (**B**) 293T whole cell lysates and MCF7 nuclear extract (**C**).

SELECT PRODUCT CITATIONS

1. Bantscheff, M., et al. 2011. Chemoproteomics profiling of HDAC inhibitors reveals selective targeting of HDAC complexes. Nat. Biotechnol. 29: 255-265.
2. Becher, I., et al. 2014. Chemoproteomics reveals time-dependent binding of histone deacetylase inhibitors to endogenous repressor complexes. ACS Chem. Biol. 9: 1736-1746.
3. Fuller, N.O., et al. 2019. CoREST complex-selective HDAC inhibitors show prosynaptic effects and an improved safety profile to enable treatment of synaptopathies. ACS Chem. Neurosci. 10: 1729-1743.
4. Rakowski, M., et al. 2021. Silver nanoparticles modulate the epithelial-to-mesenchymal transition in estrogen-dependent breast cancer cells *in vitro*. Int. J. Mol. Sci. 22: 9203.
5. Kusakabe, M., et al. 2022. Histone deacetylation regulates nucleotide excision repair through an interaction with the XPC protein. iScience 25: 104040.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

RESEARCH USE

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