SANTA CRUZ BIOTECHNOLOGY, INC.

Msi1 (69-Q): sc-135721

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Musashi1 (Msi1) is an RNA-binding protein expressed in neural progenitor cells and neural stem cells. Msi1 is the mammalian homolog of *Drosophila* Musashi. The gene encoding human Msi1 encodes a 362 amino acid protein. In murine embryonic neural progenitor cells, Msi1 localizes to the cytoplasm and is downregulated during differentiation. Msi1 binds to NUMB, which encodes a membrane-associated antagonist of Notch signaling. Msi1 appears to function in the proliferation and maintenance of stem cell populations of the central nervous system. In addition to its usefulness as a marker for neural progenitor cells in normal human brains, Msi1 is also a marker for human gliomas. In rats, Msi1 is expressed in Sertoli cells of the testis and granulosa cells of the ovary.

REFERENCES

1. Good, P., et al. 1998. The human Musashi homolog 1 (Msi1) gene encoding the homologue of Musashi/Nrp-1, a neural RNA-binding protein putatively expressed in CNS stem cells and neural progenitor cells. Genomics 52: 382-384.
2. Kaneko, Y., et al. 2000. Musashi1: evolutionarily conserved markers for CNS progenitor cells including neural stem cells. Dev. Neurosci. 22: 138-152.

CHROMOSOMAL LOCATION

Genetic locus: MSI1 (human) mapping to 12q24.31; Msi1 (mouse) mapping to 5 F.

SOURCE

Msi1 (69-Q) is a mouse monoclonal antibody raised against amino acids 1-87 representing an N-terminal region of Msi1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Msi1 (69-Q) is recommended for detection of Msi1 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).

Suitable for use as control antibody for Msi1 siRNA (h): sc-106836, Msi1 siRNA (m): sc-149659, Msi1 shRNA Plasmid (h): sc-106836-SH, Msi1 shRNA Plasmid (m): sc-149659-SH, Msi1 shRNA (h) Lentiviral Particles: sc-106836-V and Msi1 shRNA (m) Lentiviral Particles: sc-149659-V.

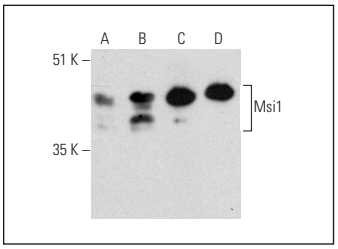
Molecular Weight of Msi1: 39 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, SH-SY5Y cell lysate: sc-3812 or C2C12 whole cell lysate: sc-364188.

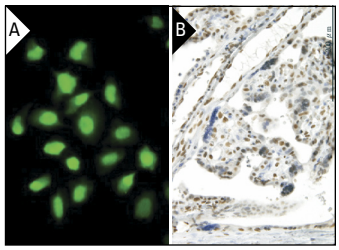
STORAGE

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

DATA



Msi1 (69-Q): sc-135721. Western blot analysis of Msi1 expression in IMR-32 (**A**), SH-SY5Y (**B**), C2C12 (**C**) and PC-12 (**D**) whole cell lysates.



Msi1 (69-Q): sc-135721. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human placenta tissue showing nuclear localization (**B**).

SELECT PRODUCT CITATIONS

1. Chen, Y.Z., et al. 2014. Increased expression of the adult stem cell marker Musashi-1 in the ectopic endometrium of adenomyosis does not correlate with serum estradiol and progesterone levels. Eur. J. Obstet. Gynecol. Reprod. Biol. 173: 88-93.
2. Gioia, U., et al. 2014. Mir-23a and mir-125b regulate neural stem/progenitor cell proliferation by targeting Musashi1. RNA Biol. 11: 1105-1112.
3. Xue, T., et al. 2015. Exposure to acoustic stimuli promotes the development and differentiation of neural stem cells from the cochlear nuclei through the clusterin pathway. Int. J. Mol. Med. 35: 637-644.
4. Chow, H.Y., et al. 2018. Group I Paks are essential for epithelial-mesenchymal transition in an Apc-driven model of colorectal cancer. Nat. Commun. 9: 3473.
5. Montalbano, M., et al. 2019. Tau oligomers mediate aggregation of RNA-binding proteins Musashi1 and Musashi2 inducing lamin alteration. Aging Cell 18: e13035.
6. Wu, C.H., et al. 2019. Estradiol induces cell proliferation in MCF-7 mammospheres through HER2/Cox-2. Mol. Med. Rep. 19: 2341-2349.
7. Dun, Y., et al. 2020. Changes of Wnt/β-catenin signalling, BMP2, and BMP4 in the jejunum during ageing in rats. Arab J. Gastroenterol. E-published.

RESEARCH USE

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

PROTOCOLS

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