SANTA CRUZ BIOTECHNOLOGY, INC.

Msi1 (N-14): sc-26278



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

- Good, P., Yoda, A., Sakakibara, S., Yamamoto, A., Imai, T., Sawa, H., Ikeuchi, T., Tsuji, S., Satoh, H. and Okano, H. 1998. The human Musashi homolog 1 (Msi1) gene encoding the homologue of Musashi/Nrp-1, a neural RNAbinding protein putatively expressed in CNS stem cells and neural progenitor cells. Genomics 52: 382-384.
- Kaneko, Y., Sakakibara, S., Imai, T., Suzuki, A., Nakamura, Y., Sawamoto, K., Ogawa, Y., Toyama, T. and Okano, H. 2000. Musashi1: evolutionarily conserved markers for CNS progenitor cells including neural stem cells. Dev. Neurosci. 22: 138-152.
- Kanemura, Y., Mori, K., Sakakibara, S., Fujikawa, H., Hayashi, H., Nakano, A., Matsumoto, T., Tamura, K., Imai, T., Ohnishi, T., Fushiki, S., Nakamura, Y., Yamasaki, M., Okano, H. and Arita, N. 2001. Musashi1, an evolutionarily conserved neural RNA-binding protein, is a versatile marker of human glioma cells in determining their cellular origin, malignancy, and proliferative activity. Differentiation 68: 141-152.
- Imai, T., Tokunaga, A., Yoshida, T., Hashimoto, M., Mikoshiba, K., Weinmaster, G., Nakafuku, M. and Okano, H. 2001. The neural RNA-binding protein Musashi1 translationally regulates mammalian numb gene expression by interacting with its mRNA. Mol. Cell. Biol. 21: 3888-3900.
- Sakakibara, S., Nakamura, Y., Yoshida, T., Shibata, S., Koike, M., Takano, H., Ueda, S., Uchiyama, Y., Noda, T. and Okano, H. 2002. RNA-binding protein Musashi family: roles for CNS stem cells and a subpopulation of ependymal cells revealed by targeted disruption and antisense ablation. Proc. Natl. Acad. Sci. USA 99: 15194-15199.
- Saunders, P.T., Maguire, S.M., Macpherson, S., Fenelon, M.C., Sakakibara, S. and Okano, H. 2002. RNA binding protein Musashi1 is expressed in sertoli cells in the rat testis from fetal life to adulthood. Biol. Reprod. 66: 500-507.

CHROMOSOMAL LOCATION

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

SOURCE

Msi1 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Msi1 of human origin.

PRODUCT

Each vial contains 200 μg lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-26278 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Msi1 (N-14) 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), 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).

Msi1 (N-14) is also recommended for detection of Msi1 in additional species, including canine and bovine.

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.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluo-rescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.

MONOS Satisfation Guaranteed

Try **Msi1 (69-Q): sc-135721**, our highly recommended monoclonal alternative to Msi1 (N-14).