SANTA CRUZ BIOTECHNOLOGY, INC.

MRVI1a (N-19): sc-10953

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The Power to Question

BACKGROUND

The integration of the murine leukemia virus (MuLV) into the mammalian genome is frequently associated with insertional mutagenesis of cellular proto-oncogenes and tumor suppressor genes leading to cellular transformation and leukemias. Several proto-oncogenes were initially identified as sites of viral integration, including the tumor-suppressors Myc, Myb, and Hox. A related murine virus, MRV, also induces leukemia through viral integration and the disruption of the MRVI1 encoding gene. MRVI1 is specifically expressed in megakaryocytes and various myeloid leukemias, and its expression is downregulated during monocytic differentiation. The human and murine homologs of MRVI1 share substantial sequence similarity and similar expression patterns and are most closely related to the lymphoid specific protein Jaw1. The transcripts generated from MRVI1 are alternatively spliced and initiated from two distinct promoters to produce a longer isoform, MRVI1a, which contains an N-terminal 84 amino acid extension that is not present in the otherwise identical, shorter isoform, MRVI1b. These two isoforms have distinct subcellular localization patterns as MRVI1a contains an additional transmembrane domain and localizes to the endoplasmic recticulum, while MRVI1b is diffusely distributed throughout the cell.

REFERENCES

1. Bowerman, B., et al. 1989. A nucleoprotein complex mediates the integration of retroviral DNA. Genes Dev. 3: 469-478.
2. Buchberg, A.M., et al. 1990. Evi-2, a common integration site involved in murine myeloid leukemogenesis. Mol. Cell. Biol. 10: 4658-4666.
3. Behrens, T.W., et al. 1994. Jaw1, A lymphoid-restricted membrane protein localized to the endoplasmic reticulum. J. Immunol. 153: 682-690.
4. Cho, B.C., et al. 1995. Frequent disruption of the Nf1 gene by a novel murine AIDS virus-related provirus in BXH-2 murine myeloid lymphomas. J. Virol. 69: 7138-46.
5. Moskow, J.J., et al. 1995. Meis1, a PBX1-related homeobox gene involved in myeloid leukemia in BXH-2 mice. Mol. Cell. Biol. 15: 5434-5443.
6. Behrens, T.W., et al. 1996. Carboxyl-terminal targeting and novel post-translational processing of Jaw1, a lymphoid protein of the endoplasmic reticulum. J. Biol. Chem. 271: 23528-23534.
7. Shaughnessy, J.D., et al. 1999. MRVI1, a common MRV integration site in BXH2 myeloid leukemias, encodes a protein with homology to a lymphoid-restricted membrane protein Jaw1. Oncogene 18: 2069-2084.

CHROMOSOMAL LOCATION

Genetic locus: MRVI1 (human) mapping to 11p15.4.

SOURCE

MRVI1a (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of MRVI1a of human origin.

STORAGE

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

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-10953 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MRVI1a (N-19) is recommended for detection of MRVI1a of 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).

MRVI1a (N-19) is also recommended for detection of MRVI1a in additional species, including bovine and porcine.

Suitable for use as control antibody for MRVI1a siRNA (h): sc-42930, MRVI1a shRNA Plasmid (h): sc-42930-SH and MRVI1a shRNA (h) Lentiviral Particles: sc-42930-V.

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) Immunofluorescence: 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.

SELECT PRODUCT CITATIONS

1. Seenundun, S., et al. 2007. Time-dependent rescue of gene expression by androgens in the mouse proximal caput epididymidis-1 cell line after androgen withdrawal. Endocrinology 148: 173-188.

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.