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MRV1a siRNA (h): sc-42930

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 MRV1 encoding gene. MRV1 is specifically expressed in megakaryocytes and various myeloid leukemias, and its expression is downregulated during monocytic differentiation. The human and murine homologs of MRV1 share substantial sequence similarity and similar expression patterns and are most closely related to the lymphoid specific protein *Jaw1*. The transcripts generated from MRV1 are alternatively spliced and initiated from two distinct promoters to produce a longer isoform, MRV1a, which contains an N-terminal 84 amino acid extension that is not present in the otherwise identical, shorter isoform, MRV1b. These two isoforms have distinct subcellular localization patterns, as MRV1a contains an additional transmembrane domain and localizes to the endoplasmic reticulum, while MRV1b is diffusely distributed throughout the cell.

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PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: MRV1 (human) mapping to 11p15.4.

PRODUCT

MRV1a siRNA (h) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MRV1a shRNA Plasmid (h): sc-42930-SH and MRV1a shRNA (h) Lentiviral Particles: sc-42930-V as alternate gene silencing products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

MRV1a siRNA (h) is recommended for the inhibition of MRV1a expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MRV1a gene expression knockdown using RT-PCR Primer: MRV1a (h)-PR: sc-42930-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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