SANTA CRUZ BIOTECHNOLOGY, INC.

SPIN90 siRNA (h): sc-76563

BACKGROUND

SPIN90 (also known as NCK-interacting protein with SH3 domain, diaphanous protein-interacting protein, DIP-1) is a 722 amino acid protein encoded by the human gene SPIN90. SPIN90 is a nuclear protein containing an SH3 domain, a proline-rich domain and a bipartite nuclear localization signal. The SH3 domain of SPIN90 has high homology with that of FYN. SPIN90 plays an important role in stress fiber formation induced by active diaphanous protein homolog 1 (DRF1) and can induce microspike formation *in vivo*. SPIN90 facilitates the assembly of myofibrils into sarcomeres and mediates the maintenance of these sarcomeres. It is also believed to regulate Actin polymerization and cell adhesion. A chromosomal aberration involving SPIN90/AF3p21 is found in therapy-related leukemia involving a translocation at t(3;11)(p21;q23) with MLL. This occurs when intron 6 of the mixed lineage leukemia (MLL) gene is fused at a point upstream of exon 1 in the AF3p21 gene and the chromosome forms an MLL-AF3p21 fusion transcript in leukemic cells. The MLL gene is frequently rearranged in leukemia, especially in infantile leukemia and therapy-related leukemia. The MLL gene is localized at chromosome 11q23, and is involved in almost all of the chromosomal translocations involving 11q23.

REFERENCES

1. Sano, K. 2001. Structure of AF3p21, a new member of mixed lineage leukemia (MLL) fusion partner proteins-implication for MLL-induced leukemogenesis. Leuk. Lymphoma 42: 595-602.
2. Kim, Y., et al. 2005. Interaction of SPIN90 with dynamin I and its participation in synaptic vesicle endocytosis. J. Neurosci. 25: 9515-9523.
3. García, A., et al. 2006. A global proteomics approach identifies novel phosphorylated signaling proteins in GPVI-activated platelets: involvement of G6f, a novel platelet Grb2-binding membrane adapter. Proteomics 6: 5332-5343.
4. Lee, S., et al. 2006. SPIN90/WISH interacts with PSD-95 and regulates dendritic spinogenesis via an N-WASP-independent mechanism. EMBO J. 25: 4983-4995.

CHROMOSOMAL LOCATION

Genetic locus: NCKIPSD (human) mapping to 3p21.31.

PRODUCT

SPIN90 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SPIN90 shRNA Plasmid (h): sc-76563-SH and SPIN90 shRNA (h) Lentiviral Particles: sc-76563-V as alternate gene silencing products.

For independent verification of SPIN90 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-76563A, sc-76563B and sc-76563C.

RESEARCH USE

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

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

SPIN90 siRNA (h) is recommended for the inhibition of SPIN90 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 µM in 66 µl. 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.

GENE EXPRESSION MONITORING

SPIN90 (B-6): sc-514232 is recommended as a control antibody for monitoring of SPIN90 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SPIN90 gene expression knockdown using RT-PCR Primer: SPIN90 (h)-PR: sc-76563-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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