

Vav siRNA (m): sc-29518

BACKGROUND

The Vav gene was originally identified on the basis of its oncogenic activation during the course of gene transfer assays. The major translational product of the Vav proto-oncogene has been identified as a protein containing an array of structural motifs. This protein, known as Vav, Vav1 or p95Vav, contains an N-terminal helix-loop-helix domain and a leucine zipper motif similar to that of Myc family proteins that, if deleted, causes oncogenic activation. In addition, Vav contains an SH2 domain, which could indicate its role as a substrate for tyrosine kinases. Expression of Vav is limited exclusively to cells of hematopoietic origin, including those of the erythroid, lymphoid and myeloid lineages. These results suggest that Vav may represent a new type of signal transduction molecule involved in the transduction of tyrosine phosphorylation signaling into transcriptional events.

REFERENCES

1. Katzav, S., et al. 1989. Vav, a novel human oncogene derived from a locus ubiquitously expressed in hematopoietic cells. *EMBO J.* 8: 2283-2290.
2. Ullrich, A. and Schlessinger, J. 1990. Signal transduction by receptors with tyrosine kinase activity. *Cell* 61: 203-212.
3. Coppola, J., et al. 1991. Mechanism of activation of the Vav protooncogene. *Cell Growth Differ.* 2: 95-105.
4. Katzav, S., et al. 1991. Loss of the amino-terminal helix-loop-helix domain of the Vav proto-oncogene activates its transforming potential. *Mol. Cell. Biol.* 11: 1912-1920.
5. Bustelo, X.R., et al. 1992. Product of Vav proto-oncogene defines a new class of tyrosine protein kinase substrates. *Nature* 356: 68-71.
6. Margolis, B., et al. 1992. Tyrosine phosphorylation of Vav proto-oncogene product containing SH2 domain and transcription factor motifs. *Nature* 356: 71-74.
7. Bustelo, X.R. and Barbacid, M. 1992. Tyrosine phosphorylation of the Vav proto-oncogene product in activated B cells. *Science* 256: 1196-1199.
8. Romero, F., et al. 1996. p95Vav associates with the nuclear protein Ku70. *Mol. Cell. Biol.* 16: 37-44.

CHROMOSOMAL LOCATION

Genetic locus: Vav1 (mouse) mapping to 17 D.

PRODUCT

Vav siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Vav shRNA Plasmid (m): sc-29518-SH and Vav shRNA (m) Lentiviral Particles: sc-29518-V as alternate gene silencing products.

For independent verification of Vav (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-29518A, sc-29518B and sc-29518C.

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

Vav siRNA (m) is recommended for the inhibition of Vav expression in mouse 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.

GENE EXPRESSION MONITORING

Vav (D-7): sc-8039 is recommended as a control antibody for monitoring of Vav 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 Vav gene expression knockdown using RT-PCR Primer: Vav (m)-PR: sc-29518-PR (20 μ l, 307 bp). 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.

PROTOCOLS

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