

Abi-3 siRNA (h): sc-93770

BACKGROUND

The Abelson oncogene was initially identified as the viral transforming component of Abelson murine leukemia virus (A-MuLV). The Abelson gene (ABL1) encodes a SH2-domain bearing tyrosine kinase which conducts mitogenic signaling pursuant to growth factor receptor ligation. The Abl interactor proteins, Abi-1, Abi-2 and Abi-3, are SH3-domain containing proteins that bind to the proline-rich motifs of Abl and activate the kinase function. The Abi family members are thought to negatively regulate cell growth and transformation, including cellular transformation through v-Abl as well as mediate cell motility by regulating actin polymerization in lamellipodia and filopodia. Abi-3, also designated NESH, is a 366 amino acid protein that interacts with TARSH, a cellular senescence-related gene that acts as a trigger of tumor development.

REFERENCES

1. Miyazaki, K., Matsuda, S., Ichigotani, Y., Takenouchi, Y., Hayashi, K., Fukuda, Y., Nimura, Y. and Hamaguchi, M. 2000. Isolation and characterization of a novel human gene (NESH) which encodes a putative signaling molecule similar to e3B1 protein. *Biochim. Biophys. Acta* 1493: 237-241.
2. Ichigotani, Y., Yokozaki, S., Fukuda, Y., Hamaguchi, M. and Matsuda, S. 2002. Forced expression of NESH suppresses motility and metastatic dissemination of malignant cells. *Cancer Res.* 62: 2215-2219.
3. Ichigotani, Y., Fujii, K., Hamaguchi, M. and Matsuda, S. 2002. In search of a function for the E3B1/Abi2/Argbp1/NESH family (Review). *Int. J. Mol. Med.* 9: 591-595.
4. Hirao, N., Sato, S., Gotoh, T., Maruoka, M., Suzuki, J., Matsuda, S., Shishido, T. and Tani, K. 2006. NESH (Abi-3) is present in the Abi/WAVE complex but does not promote c-Abl-mediated phosphorylation. *FEBS Lett.* 580: 6464-6470.
5. Matsuda, S., Yokozaki, S., Yoshida, H., Kitagishi, Y., Shirafuji, N. and Okumura, N. 2008. Insulin receptor substrate protein 53 (IRSp53) as a binding partner of antimetastasis molecule NESH, a member of Abelson interactor protein family. *Ann. Oncol.* 19: 1356-1357.

CHROMOSOMAL LOCATION

Genetic locus: ABI3 (human) mapping to 17q21.32.

PRODUCT

Abi-3 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Abi-3 shRNA Plasmid (h): sc-93770-SH and Abi-3 shRNA (h) Lentiviral Particles: sc-93770-V as alternate gene silencing products.

For independent verification of Abi-3 (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-93770A, sc-93770B and sc-93770C.

PROTOCOLS

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

Abi-3 siRNA (h) is recommended for the inhibition of Abi-3 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.

GENE EXPRESSION MONITORING

Abi-3 (C-7): sc-376982 is recommended as a control antibody for monitoring of Abi-3 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 Abi-3 gene expression knockdown using RT-PCR Primer: Abi-3 (h)-PR: sc-93770-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.