SANTA CRUZ BIOTECHNOLOGY, INC.

Abi-3 siRNA (m): sc-140778

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 (mouse) mapping to 11 D.

PRODUCT

Abi-3 siRNA (m) 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Abi-3 shRNA Plasmid (m): sc-140778-SH and Abi-3 shRNA (m) Lentiviral Particles: sc-140778-V as alternate gene silencing products.

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.

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

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

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-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 Abi-3 gene expression knockdown using RT-PCR Primer: Abi-3 (m)-PR: sc-140778-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.