

Abi-1 siRNA (h): sc-40306

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 and Abi-2, are SH3-domain containing proteins that bind to the proline-rich motifs of Abl and activate the kinase function. Two splice variants of Abi-1 are widely expressed, with the highest levels found in bone marrow, spleen, brain and testis. Abi-1 and Abi-2 are thought to negatively regulate cell growth and transformation, including cellular transformation through v-Abl. ABI1, the gene encoding Abi-1, has been shown to translocate and fuse with MLL (mixed lineage leukemia) gene in some cases of acute myeloid leukemia (AML). The Abi proteins have also been identified as mediators of cell motility by regulating Actin polymerization in lamellipodia and filopodia.

REFERENCES

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2. Prywes, R., et al. 1983. Sequences of the A-MuLV protein needed for fibroblasts and lymphoid cell transformation. *Cell* 34: 569-579.
3. Overduin, M., et al. 1992. Three-dimensional solution structure of the Src homology 2 domain of c-Abl. *Cell* 70: 697-704.
4. Shi, Y., et al. 1995. Abl interactor-1, a novel SH3 protein binding to the carboxy-terminal portion of the Abl protein, suppresses v-Abl transforming activity. *Genes Dev.* 9: 2583-2597.
5. Taki, T., et al. 1998. Abi-1, a human homolog to mouse Abl interactor-1, fuses the MLL gene in acute myeloid leukemia with t(10;11) (p11.2;q23). *Blood* 92: 1125-1130.
6. Juang, J.L., et al. 1999. *Drosophila* abelson interacting protein (dAbi) is a positive regulator of abelson tyrosine kinase activity. *Oncogene* 18: 5138-5147.
7. Fan, P.D., et al. 2000. Abl interactor-1 binds to sos and inhibits epidermal growth factor- and v-Abl-induced activation of extracellular signal-regulated kinases. *Mol. Cell. Biol.* 20: 7591-7601.

CHROMOSOMAL LOCATION

Genetic locus: ABI1 (human) mapping to 10p12.1.

PRODUCT

Abi-1 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-1 shRNA Plasmid (h): sc-40306-SH and Abi-1 shRNA (h) Lentiviral Particles: sc-40306-V as alternate gene silencing products.

For independent verification of Abi-1 (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-40306A, sc-40306B and sc-40306C.

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-1 siRNA (h) is recommended for the inhibition of Abi-1 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-1 (C-1): sc-398554 is recommended as a control antibody for monitoring of Abi-1 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-1 gene expression knockdown using RT-PCR Primer: Abi-1 (h)-PR: sc-40306-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.

PROTOCOLS

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