SANTA CRUZ BIOTECHNOLOGY, INC.

Arg siRNA (m): sc-38946

BACKGROUND

The Abl oncogene was initially identified as the viral transforming gene of Abelson murine leukemia virus (A-MuLV). The major translational product of c-Abl has been identified as a protein with tyrosine kinase activity and an SH2 domain. The Abl oncogene is implicated in several human leukemias including chronic myelocytic leukemia (CML), in which it undergoes a (9;22) chromosomal translocation and produces the Philadelphia (Ph1) chromosome. The molecular consequence of this translocation is the generation of a chimeric Bcr/c-Abl mRNA encoding activated Abl protein tyrosine kinase. The related protein tyrosine kinase Arg, also designated Abl2, contains an SH2 and an SH3 domain. Arg has been shown to interact with and to phosphorylate c-Crk.

REFERENCES

1. Abelson, H.T., et al. 1970. Lymphosarcoma: virus-induced thymic-independent disease in mice. Cancer Res. 30: 2213-2222.
2. de Klein, A., et al. 1982. A cellular oncogene is translocated to the Philadelphia chromosome in chronic myelocytic leukemia. Nature 300: 765-767.
3. Prywes, R., et al. 1983. Sequences of the A-MuLV protein needed for fibroblasts and lymphoid cell transformation. Cell 34: 569-579.
4. Konopka, J.B., et al. 1984. An alteration of the human c-Abl protein in K562 leukemia cells unmasks associated tyrosine kinase activity. Cell 37: 1035-1042.
5. Stam, K., et al. 1985. Evidence of a new chimeric Bcr/c-Abl mRNA in patients with chronic myelocytic leukemia and the Philadelphia chromosome. N. Engl. J. Med. 313: 1429-1433.
6. Diekmann, D., et al. 1991. Bcr encodes a GTPase-activating protein for p21Rac. Nature 351: 400-402.
7. Overduin, M., et al. 1992. Three-dimensional solution structure of the Src homology 2 domain of c-Abl. Cell 70: 697-704.

CHROMOSOMAL LOCATION

Genetic locus: Abl2 (mouse) mapping to 1 G3.

PRODUCT

Arg 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Arg shRNA Plasmid (m): sc-38946-SH and Arg shRNA (m) Lentiviral Particles: sc-38946-V as alternate gene silencing products.

For independent verification of Arg (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-38946A, sc-38946B and sc-38946C.

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

Arg siRNA (m) is recommended for the inhibition of Arg 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

Arg (1H1B11): sc-81154 is recommended as a control antibody for monitoring of Arg 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 Arg gene expression knockdown using RT-PCR Primer: Arg (m)-PR: sc-38946-PR (20 µl, 540 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.