SANTA CRUZ BIOTECHNOLOGY, INC.

p41-ARCb siRNA (h): sc-62745

BACKGROUND

The Arp2/3 (Actin-related protein 2/3) complex consists of seven subunits, all of which are actin-related proteins. The complex is involved in the control of actin polymerization and in mediating the formation of branched actin networks. The p41 subunit of Arp2/3 exists in multiple versions which arise due to post-translational modifications and vary in function depending on cell type or developmental stage. p41-ARCb, also known as ARPC1B (Actin-related protein 2/3 complex subunit 1B) or ARC41 (Arp2/3 complex 41 kDa subunit), is a 372 amino acid version of the p41 subunit of the Arp2/3 complex. Localized to the cytoplasm and cytoskeleton, p41-ARCb is involved in regulating the assembly and maintenance of the complex and, unlike the other Arp2/3 subunits, is not primarily involved in actin polymerization.

REFERENCES

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5. Kaneda, A., Kaminishi, M., Sugimura, T. and Ushijima, T. 2004. Decreased expression of the seven ARP2/3 complex genes in human gastric cancers. Cancer Lett. 212: 203-210.
6. Kumagai, K., Nimura, Y., Mizota, A., Miyahara, N., Aoki, M., Furusawa, Y., Takiguchi, M., Yamamoto, S. and Seki, N. 2006. Arpc1b gene is a candidate prediction marker for choroidal malignant melanomas sensitive to radiotherapy. Invest. Ophthalmol. Vis. Sci. 47: 2300-2304.

CHROMOSOMAL LOCATION

Genetic locus: ARPC1B (human) mapping to 7q22.1.

PRODUCT

p41-ARCb 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see p41-ARCb shRNA Plasmid (h): sc-62745-SH and p41-ARCb shRNA (h) Lentiviral Particles: sc-62745-V as alternate gene silencing products.

For independent verification of p41-ARCb (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-62745A, sc-62745B and sc-62745C.

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

p41-ARCb siRNA (h) is recommended for the inhibition of p41-ARCb 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 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

p41-ARCb (C-3): sc-137125 is recommended as a control antibody for monitoring of p41-ARCb 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 p41-ARCb gene expression knockdown using RT-PCR Primer: p41-ARCb (h)-PR: sc-62745-PR (20 µl). 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.