SANTA CRUZ BIOTECHNOLOGY, INC.

p21-ARC siRNA (h): sc-62731

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. p21-ARC, also known as ARPC3 (Actin-related protein 2/3 complex subunit 3) or ARC21 (Arp2/3 complex 21 kDa subunit), is a 178 amino acid actin-binding component of Arp2/3. Localized to the cytoplasm and cytoskeleton, p21-ARC is thought to interact with p20-ARC and play an important role in the structural integrity of the protein complex.

REFERENCES

1. Welch, M.D., et al. 1997. The human Arp2/3 complex is composed of evolutionarily conserved subunits and is localized to cellular regions of dynamic actin filament assembly. J. Cell Biol. 138: 375-384.
2. Goldberg, D.J., et al. 2000. Recruitment of the Arp2/3 complex and mena for the stimulation of actin polymerization in growth cones by nerve growth factor. J. Neurosci. Res. 60: 458-467.
3. Zhao, X., et al. 2001. Interactions among subunits of human Arp2/3 complex: p20-ARC as the hub. Biochem. Biophys. Res. Commun. 280: 513-517.
4. Robinson, R.C., et al. 2001. Crystal structure of Arp2/3 complex. Science 294: 1679-1684.
5. Beltzner, C.C., et al. 2004. Identification of functionally important residues of Arp2/3 complex by analysis of homology models from diverse species. J. Mol. Biol. 336: 551-565.
6. Dubois, T., et al. 2005. Golgi-localized GAP for Cdc42 functions downstream of ARF1 to control Arp2/3 complex and F-actin dynamics. Nat. Cell Biol. 7: 353-364.
7. Yae, K., et al. 2006. Sleeping beauty transposon-based phenotypic analysis of mice: lack of Arpc3 results in defective trophoblast outgrowth. Mol. Cell. Biol. 26: 6185-6196.

CHROMOSOMAL LOCATION

Genetic locus: ARPC3 (human) mapping to 12q24.11.

PRODUCT

p21-ARC siRNA (h) 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 p21-ARC shRNA Plasmid (h): sc-62731-SH and p21-ARC shRNA (h) Lentiviral Particles: sc-62731-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

p21-ARC siRNA (h) is recommended for the inhibition of p21-ARC 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

p21-ARC (E-7): sc-166630 is recommended as a control antibody for monitoring of p21-ARC 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 p21-ARC gene expression knockdown using RT-PCR Primer: p21-ARC (h)-PR: sc-62731-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.