



p21-ARC siRNA (m): sc-62732

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 (mouse) mapping to 5 F.

PRODUCT

p21-ARC 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see p21-ARC shRNA Plasmid (m): sc-62732-SH and p21-ARC shRNA (m) Lentiviral Particles: sc-62732-V as alternate gene silencing products.

For independent verification of p21-ARC (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-62732A, sc-62732B and sc-62732C.

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 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

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

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-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 p21-ARC gene expression knockdown using RT-PCR Primer: p21-ARC (m)-PR: sc-62732-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.