SANTA CRUZ BIOTECHNOLOGY, INC.

p41-ARCa siRNA (m): sc-106341

BACKGROUND

p41-ARCa, also known as ARPC1A (Actin-related protein 2/3 complex subunit 1A) or SOP2L, is a 370 amino acid cytoplasmic protein that contains six WD repeats and belongs to the WD repeat ARPC1 family. As a possible component of the Arp2/3 complex, p41-ARCa is involved in the regulation of actin polymerization. Working together with an activating nucleation-promoting factor (NPF), p41-ARCa mediates the formation of branched Actin networks. The gene that encodes p41-ARCa consists of nearly 69,000 bases and maps to human chromosome 7q22.1. Chromosome 7 houses over 1,000 genes, comprises nearly 5% of the human genome and has been linked to osteogenesis imperfecta, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome. The Lys 172 polymorphism in T2R16 is associated with genetic susceptibility to alcoholism.

REFERENCES

1. Tsipouras, P., et al. 1983. Restriction fragment length polymorphism associated with the pro α2(I) gene of human type I procollagen. Application to a family with an autosomal dominant form of osteogenesis imperfecta. J. Clin. Invest. 72: 1262-1267.
2. Balasubramanian, M.K., et al. 1996. Fission yeast Sop2p: a novel and evolutionarily conserved protein that interacts with Arp3p and modulates profilin function. EMBO J. 15: 6426-6437.
3. 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.
4. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 604220. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Iwasaki, S., et al. 2001. Long-term audiological feature in Pendred syndrome caused by PDS mutation. Arch. Otolaryngol. Head Neck Surg. 127: 705-708.

CHROMOSOMAL LOCATION

Genetic locus: Arpc1a (mouse) mapping to 5 G2.

PRODUCT

p41-ARCa 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 p41-ARCa shRNA Plasmid (m): sc-106341-SH and p41-ARCa shRNA (m) Lentiviral Particles: sc-106341-V as alternate gene silencing products.

For independent verification of p41-ARCa (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-106341A, sc-106341B and sc-106341C.

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

p41-ARCa siRNA (m) is recommended for the inhibition of p41-ARCa 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor p41-ARCa gene expression knockdown using RT-PCR Primer: p41-ARCa (m)-PR: sc-106341-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.