

Arp3 β siRNA (h): sc-105092

BACKGROUND

Actin-related proteins are classified into Arp subclasses according to their amino acid sequence similarity to Actin. Both Arp and Actin proteins have an ATPase domain, which catalyzes the decomposition of adenosine triphosphate (ATP) into adenosine diphosphate (ADP) and a free phosphate ion to release energy. Arp3 β (Actin-related protein 3 β), also known as ARP11 or ARP4, is a 418 amino acid protein that localizes to both the cytoplasm and the cytoskeleton and belongs to the Arp3 family of Actin-related proteins. Expressed in liver, pancreas, skeletal muscle and fetal and adult brain, Arp3 β plays a role in Actin cytoskeletal organization and is thought to function as a component of the Arp2/3 complex, a multi-protein structure that promotes Actin nucleation, mediates Actin cytoskeletal outgrowth and helps create new Actin filaments. Multiple isoforms of Arp3 β exist due to alternative splicing events.

REFERENCES

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2. Jay, P., et al. 2000. ARP3 β , the gene encoding a new human Actin-related protein, is alternatively spliced and predominantly expressed in brain neuronal cells. *Eur. J. Biochem.* 267: 2921-2928.
3. Boyer, L.A. and Peterson, C.L. 2000. Actin-related proteins (Arps): conformational switches for chromatin-remodeling machines? *Bioessays* 22: 666-672.
4. Harata, M., et al. 2001. Identification of two cDNAs for human Actin-related proteins (Arps) that have remarkable similarity to conventional Actin. *Biochim. Biophys. Acta* 1522: 130-133.
5. Shindo-Okada, N. and Shimizu, K. 2001. Isolation of a novel Actin-related gene expressed in low-metastatic PC-14 human lung adenocarcinoma. *Biochem. Biophys. Res. Commun.* 280: 61-67.
6. Shindo-Okada, N. and Iigo, M. 2003. Expression of the Arp11 gene suppresses the tumorigenicity of PC-14 human lung adenocarcinoma cells. *Biochem. Biophys. Res. Commun.* 312: 889-896.

CHROMOSOMAL LOCATION

Genetic locus: ACTR3B (human) mapping to 7q36.1.

PRODUCT

Arp3 β siRNA (h) is a pool of 2 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 Arp3 β shRNA Plasmid (h): sc-105092-SH and Arp3 β shRNA (h) Lentiviral Particles: sc-105092-V as alternate gene silencing products.

For independent verification of Arp3 β (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-105092A and sc-105092B.

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

Arp3 β siRNA (h) is recommended for the inhibition of Arp3 β 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Arp3 β gene expression knockdown using RT-PCR Primer: Arp3 β (h)-PR: sc-105092-PR (20 μ l, 454 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.