SANTA CRUZ BIOTECHNOLOGY, INC.

Arp-T1 siRNA (h): sc-90996

BACKGROUND

Actin-related proteins are classified into Arp subclasses according to their amino acid sequence similarity to Actin. Both Arps 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. Arp-T1 (Actin-related protein T1), also known as AIP1 or ARIP1, is a 376 amino acid structural, cytoskeletal protein. Like other Arp family members, Arp-T1 contains an Actin-like ATP/ADP-binding pocket and two nuclear export signals. Although Arp-T1 shares 48% sequence identity with β-Actin, it contains several cysteine residues that are not found in other Actin family members. With significant expression in testis, Arp-T1 is implicated to play a role in spermatid formation and differentiation.

REFERENCES

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2. 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.
3. Machesky, L.M. and May, R.C. 2001. Arps: Actin-related proteins. Results Probl. Cell Differ. 32: 213-229.
4. Heid, H., et al. 2002. Novel Actin-related proteins Arp-T1 and Arp-T2 as components of the cytoskeletal calyx of the mammalian sperm head. Exp. Cell Res. 279: 177-187.
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CHROMOSOMAL LOCATION

Genetic locus: ACTRT1 (human) mapping to Xq25.

PRODUCT

Arp-T1 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 Arp-T1 shRNA Plasmid (h): sc-90996-SH and Arp-T1 shRNA (h) Lentiviral Particles: sc-90996-V as alternate gene silencing products.

For independent verification of Arp-T1 (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-90996A, sc-90996B and sc-90996C.

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

Arp-T1 siRNA (h) is recommended for the inhibition of Arp-T1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Arp-T1 gene expression knockdown using RT-PCR Primer: Arp-T1 (h)-PR: sc-90996-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.