SANTA CRUZ BIOTECHNOLOGY, INC.

ArpM1 siRNA (h): sc-78402

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. ArpM1 (Actin-related protein M1) is a 372 amino acid ubiquitously expressed protein that localizes to both the cytoplasm and the cytoskeleton and belongs to the Arp family of Actin-like proteins. The gene encoding ArpM1 maps to human chromosome 3q26.2, which houses over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci.

REFERENCES

1. Boyer, L.A., et al. 2000. Actin-related proteins (Arps): conformational switches for chromatin-remodeling machines? Bioessays 22: 666-672.
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. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608534. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Blessing, C.A., et al. 2004. Actin and ARPs: action in the nucleus. Trends Cell Biol. 14: 435-442.
5. Chen, M., et al. 2007. Nuclear Actin and Actin-related proteins in chromatin dynamics. Curr. Opin. Cell Biol. 19: 326-330.
6. Hara, Y., et al. 2008. Nuclear localization of profilin III-ArpM1 complex in mouse spermiogenesis. FEBS Lett. 582: 2998-3004.

CHROMOSOMAL LOCATION

Genetic locus: ACTRT3 (human) mapping to 3q26.2.

PRODUCT

ArpM1 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 ArpM1 shRNA Plasmid (h): sc-78402-SH and ArpM1 shRNA (h) Lentiviral Particles: sc-78402-V as alternate gene silencing products.

For independent verification of ArpM1 (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-78402A, sc-78402B and sc-78402C.

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

ArpM1 siRNA (h) is recommended for the inhibition of ArpM1 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 ArpM1 gene expression knockdown using RT-PCR Primer: ArpM1 (h)-PR: sc-78402-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.