SANTA CRUZ BIOTECHNOLOGY, INC.

BAF53B siRNA (h): sc-105113

BACKGROUND

Actin-related proteins (ARPs) 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. BAF53B, also known as ACTL6B or ACTL6, is a 426 amino acid nuclear protein that belongs to the ARP family of Actin-related proteins. Thought to be involved in vesicular transport, nuclear migration and chromatin remodeling, BAF53B functions as a subunit of the BAF complex Brg-1/Brm-associated factor, a structure that is functionally related to the Swi/Snf complex in *Drosophila*. The gene encoding BAF53B maps to human chromosome 7, which houses over 1,000 genes and comprises nearly 5% of the human genome.

REFERENCES

1. Glöckner, G., et al. 1998. Large-scale sequencing of two regions in human chromosome 7q22: analysis of 650 kb of genomic sequence around the EPO and CUTL1 loci reveals 17 genes. Genome Res. 8: 1060-1073.
2. Schafer, D.A. and Schroer, T.A. 1999. Actin-related proteins. Annu. Rev. Cell Dev. Biol. 15: 341-363.
3. Harata, M., et al. 1999. Two isoforms of a human Actin-related protein show nuclear localization and mutually selective expression between brain and other tissues. Biosci. Biotechnol. Biochem. 63: 917-923.
4. Kuroda, Y., et al. 2002. Brain-specific expression of the nuclear Actin-related protein ArpNα and its involvement in mammalian Swi/Snf chromatin remodeling complex. Biochem. Biophys. Res. Commun. 299: 328-334.
5. Olave, I., et al. 2002. Identification of a polymorphic, neuron-specific chromatin remodeling complex. Genes Dev. 16: 2509-2517.
6. Oma, Y., et al. 2003. The brain-specific Actin-related protein ArpNα interacts with the transcriptional co-repressor CtBP. Biochem. Biophys. Res. Commun. 301: 521-528.

CHROMOSOMAL LOCATION

Genetic locus: ACTL6B (human) mapping to 7q22.1.

PRODUCT

BAF53B 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 BAF53B shRNA Plasmid (h): sc-105113-SH and BAF53B shRNA (h) Lentiviral Particles: sc-105113-V as alternate gene silencing products.

For independent verification of BAF53B (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-105113A, sc-105113B and sc-105113C.

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

BAF53B siRNA (h) is recommended for the inhibition of BAF53B 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 BAF53B gene expression knockdown using RT-PCR Primer: BAF53B (h)-PR: sc-105113-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.