SANTA CRUZ BIOTECHNOLOGY, INC.

BAF53 siRNA (m): sc-60240

BACKGROUND

The SWI/SNF complex regulates gene expression via ATP-dependent chromatin remodeling. Brm (SNF2-α), Brg-1 (SNF2-β), Ini1 (integrase interactor 1, SNF5), BAF53 (ARPnβ), BAF57, BAF155 (SRG3) and BAF170 make up the functional core. BAF53 homologs from yeast to humans contain a conserved N-terminal motif, which contains residues at Ser 2 and Tyr 6, which play important roles in BAF53 activity. The BAF53 protein shuttles between the nucleus and cytoplasm. BAF53 also forms a complex with TIP49 and TIP48, which mediates c-Myc oncogenic activity.

REFERENCES

1. Imbalzano, A.N., Schnitzler, G.R. and Kingston, R.E. 1996. Nucleosome disruption by human SWI/SNF is maintained in the absence of continued ATP hydrolysis. J. Biol. Chem. 271: 20726-20733.
2. Phelan, M.L., Sif, S., Narlikar, G.J. and Kingston, R.E. 1999. Reconstitution of a core chromatin remodeling complex from SWI/SNF subunits. Mol. Cell 3: 247-253.
3. Ohfuchi, E., Nishimori, K. and Harata, M. 2002. Alternative splicing products of the gene for a protein, hArpNβ/BAF53, that encode a protein isoform, hArpNβS, in the cytoplasm. Biosci. Biotechnol. Biochem. 66: 1740-1743.
4. Park, J., Wood, M.A. and Cole, M.D. 2002. BAF53 forms distinct nuclear complexes and functions as a critical c-Myc-interacting nuclear cofactor for oncogenic transformation. Mol. Cell. Biol. 22: 1307-1316.
5. Lee, J.H., Chang, S.H., Shim, J.H., Lee, J.Y., Yoshida, M. and Kwon, H. 2003. Cytoplasmic localization and nucleo-cytoplasmic shuttling of BAF53, a component of chromatin-modifying complexes. Mol. Cells 16: 78-83.
6. Lee, J.H., Lee, J.Y., Chang, S.H., Kang, M.J. and Kwon, H. 2005. Effects of Ser 2 and Tyr 6 mutants of BAF53 on cell growth and p53-dependent transcription. Mol. Cells 19: 289-293.

CHROMOSOMAL LOCATION

Genetic locus: Actl6a (mouse) mapping to 3 A3.

PRODUCT

BAF53 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 BAF53 shRNA Plasmid (m): sc-60240-SH and BAF53 shRNA (m) Lentiviral Particles: sc-60240-V as alternate gene silencing products.

For independent verification of BAF53 (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-60240A, sc-60240B and sc-60240C.

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

BAF53 siRNA (m) is recommended for the inhibition of BAF53 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.

GENE EXPRESSION MONITORING

BAF53 (E-3): sc-137062 is recommended as a control antibody for monitoring of BAF53 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor BAF53 gene expression knockdown using RT-PCR Primer: BAF53 (m)-PR: sc-60240-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.