SANTA CRUZ BIOTECHNOLOGY, INC.

BXDC1 siRNA (h): sc-95623

BACKGROUND

BXDC1 (Brix domain-containing protein 1) is a 306 amino acid protein encoded by the human gene BXDC1. BXDC1 is a nuclear protein that contains one Brix domain. Brix domain containing proteins represent a family of proteins involved in the biogenesis of large ribosomal subunits. The Brix domain is a region with homology to the yeast protein Pitx1 (ribosome biogenesis protein BRX1). Pitx1 is part of a complex that includes RPF1, RPF2 and SSF1 or SSF2. This complex is required for the biogenesis of the 60S ribosomal subunit.

REFERENCES

1. Strezoska, Z., et al. 2000. BOP1 is a mouse WD40 repeat nucleolar protein involved in 28S and 5.8S rRNA processing and 60S ribosome biogenesis. Mol. Cell. Biol. 20: 5516-5528.
2. Sasaki, T., et al. 2000. Yeast KRR1p physically and functionally interacts with a novel essential KRI1p, and both proteins are required for 40S ribosome biogenesis in the nucleolus. Mol. Cell. Biol. 20: 7971-7979.
3. Kaser, A., et al. 2002. Brix from *Xenopus laevis* and Brx1p from yeast define a new family of proteins involved in the biogenesis of large ribosomal subunits. Biol. Chem. 382: 1637-1647.
4. Morita, D., et al. 2002. Rpf2p, an evolutionarily conserved protein, interacts with Ribosomal Protein L11 and is essential for the processing of 27 SB Pre-rRNA to 25 S rRNA and the 60 S ribosomal subunit assembly in *Saccharomyces cerevisiae*. J. Biol. Chem. 277: 28780-28786.
5. Mungall, A.J., et al. 2003. The DNA sequence and analysis of human chromosome 6. Nature 425: 805-811.
6. McQueen, M.B., et al. 2005. Combined analysis from eleven linkage studies of bipolar disorder provides strong evidence of susceptibility loci on chromosomes 6q and 8q. Am. J. Hum. Genet. 77: 582-595.
7. Olsson, K.S., et al. 2007. The HLA-A1-B8 haplotype hitchhiking with the hemochromatosis mutation: does it affect the phenotype? Eur. J. Haematol. 79: 429-434.
8. Safadi, S.S., et al. 2007. A disease state mutation unfolds the Parkin ubiquitin-like domain. Biochemistry 46: 14162-14169.

CHROMOSOMAL LOCATION

Genetic locus: RPF2 (human) mapping to 6q21.

PRODUCT

BXDC1 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 BXDC1 shRNA Plasmid (h): sc-95623-SH and BXDC1 shRNA (h) Lentiviral Particles: sc-95623-V as alternate gene silencing products.

For independent verification of BXDC1 (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-95623A, sc-95623B and sc-95623C.

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

BXDC1 siRNA (h) is recommended for the inhibition of BXDC1 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.

GENE EXPRESSION MONITORING

BXDC1 (2099C7a): sc-81060 is recommended as a control antibody for monitoring of BXDC1 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor BXDC1 gene expression knockdown using RT-PCR Primer: BXDC1 (h)-PR: sc-95623-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.

PROTOCOLS

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