SANTA CRUZ BIOTECHNOLOGY, INC.

BXDC5 siRNA (m): sc-105132

BACKGROUND

BXDC5 (brix domain-containing protein 5), also designated Ribosome biogenesis protein RPF1, is a 349 amino acid protein that contains one Brix domain and localizes to the nucleolus. 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 a member of a complex that includes RPF1, RPF2 and SSF1 or SSF2, which is required for the biogenesis of the 60S ribosomal subunit in yeast. The gene encoding BXDC5 maps to human chromosome 1, which is the largest human chromosome spanning about 260 million base pairs. Aberrations in chromosome 1 are found in a variety of cancers including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

1. Kaser, A., et al. 2001. 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.
2. 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.
3. Bogengruber, E., et al. 2003. Functional analysis in yeast of the Brix protein superfamily involved in the biogenesis of ribosomes. FEMS Yeast Res. 3: 35-43.
4. Weise, A., et al. 2005. New insights into the evolution of chromosome 1. Cytogenet. Genome Res. 108: 217-222.
5. Gregory, S.G., et al. 2006. The DNA sequence and biological annotation of human chromosome 1. Nature 441: 315-321.
6. Marzin, Y., et al. 2006. Chromosome 1 abnormalities in multiple myeloma. Anticancer Res. 26: 953-959.

CHROMOSOMAL LOCATION

Genetic locus: Rpf1 (mouse) mapping to 3 H2.

PRODUCT

BXDC5 siRNA (m) is a target-specific 19-25 nt siRNA 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 BXDC5 shRNA Plasmid (m): sc-105132-SH and BXDC5 shRNA (m) Lentiviral Particles: sc-105132-V as alternate gene silencing products.

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

BXDC5 siRNA (m) is recommended for the inhibition of BXDC5 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor BXDC5 gene expression knockdown using RT-PCR Primer: BXDC5 (m)-PR: sc-105132-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.