SANTA CRUZ BIOTECHNOLOGY, INC.

CBX7 siRNA (m): sc-72817

BACKGROUND

CBX7 (chromobox protein homolog 7) is a 251 amino acid nuclear protein that contains one N-terminal chromo domain and one C-terminal Pc box. Highly expressed in kidney, brain, heart and skeletal muscle, with weaker expression in peripheral blood leukocytes, CBX7 functions as a component of the chromatin-associated polycomb complex (PcG) and is involved in maintaining the transcriptionally repressed state of target genes. Additionally, CBX7 modifies chromatin and is thought to extend the cellular life span of epithelial cells by repressing p14 ARF expression, while simultaneously repressing telomerase activity. Due to its ability to repress the transcription of cell-cycle related proteins, CBX7 is thought to play a role in tumorigenesis, specifically in the development of follicular lymphoma and thyroid cancer.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608457. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Gil, J., et al. 2004. Polycomb CBX7 has a unifying role in cellular lifespan. Nat. Cell Biol. 6: 67-72.
3. Gil, J., et al. 2005. Role of polycomb group proteins in stem cell self-renewal and cancer. DNA Cell Biol. 24: 117-125.
4. Suarez-Merino, B., et al. 2005. Microarray analysis of pediatric ependymoma identifies a cluster of 112 candidate genes including four transcripts at 22q12.1-q13.3. Neurooncology 7: 20-31.
5. Bernard, D., et al. 2005. CBX7 controls the growth of normal and tumor-derived prostate cells by repressing the Ink4a/Arf locus. Oncogene 24: 5543-5551.
6. Bernstein, E., et al. 2006. Mouse polycomb proteins bind differentially to methylated histone H3 and RNA and are enriched in facultative heterochromatin. Mol. Cell. Biol. 26: 2560-2569.
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CHROMOSOMAL LOCATION

Genetic locus: Cbx7 (mouse) mapping to 15 E1.

PRODUCT

CBX7 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 CBX7 shRNA Plasmid (m): sc-72817-SH and CBX7 shRNA (m) Lentiviral Particles: sc-72817-V as alternate gene silencing products.

For independent verification of CBX7 (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-72817A, sc-72817B and sc-72817C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

CBX7 siRNA (m) is recommended for the inhibition of CBX7 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

CBX7 (G-3): sc-376274 is recommended as a control antibody for monitoring of CBX7 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 CBX7 gene expression knockdown using RT-PCR Primer: CBX7 (m)-PR: sc-72817-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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