SANTA CRUZ BIOTECHNOLOGY, INC.

Pcf11 siRNA (h): sc-96335

BACKGROUND

In *Saccharomyces cerevisiae,* the cleavage/polyadenylation factor Pcf11 is a crucial regulatory factor required for recruiting polyadenylation machinery to elongating RNA polymerase II (RNAPII), and is necessary for correct transcriptional termination. Pcf11 (PCF11, cleavage and polyadenylation factor subunit, homolog *(S. cerevisiae)),* is a 1,555 amino acid nuclear protein that is a component of pre-mRNA cleavage complex II. It is suggested that Pcf11 is capable of promoting the dissociation of Pol II elongation complexes from DNA. Pcf11 contains a CTD-interaction domain that binds in a phospho-dependent manner to the heptad repeats within the RNA polymerase II CTD. The gene encoding Pcf11 is located on human chromosome 11, which houses over 1,400 genes and comprises nearly 4% of the human genome. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are associated with defects in genes that maps to chromosome 11.

REFERENCES

1. de Vries, H., et al. 2000. Human pre-mRNA cleavage factor II(m) contains homologs of yeast proteins and bridges two other cleavage factors. EMBO J. 19: 5895-5904.
2. Licatalosi, D.D., et al. 2002. Functional interaction of yeast pre-mRNA 3' end processing factors with RNA polymerase II. Mol. Cell 9: 1101-1111.
3. Hammell, C.M., et al. 2002. Coupling of termination, 3' processing, and mRNA export. Mol. Cell. Biol. 22: 6441-6457.
4. Meinhart, A. and Cramer, P. 2004. Recognition of RNA polymerase II carboxy-terminal domain by 3'-RNA-processing factors. Nature 430: 223-226.
5. Noble, C.G., et al. 2005. Key features of the interaction between Pcf11 CID and RNA polymerase II CTD. Nat. Struct. Mol. Biol. 12: 144-151.
6. Zhang, Z., et al. 2007. Transcription termination factor Pcf11 limits the processivity of Pol II on an HIV provirus to repress gene expression. Genes Dev. 21: 1609-1614.

CHROMOSOMAL LOCATION

Genetic locus: PCF11 (human) mapping to 11q14.1.

PRODUCT

Pcf11 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 Pcf11 shRNA Plasmid (h): sc-96335-SH and Pcf11 shRNA (h) Lentiviral Particles: sc-96335-V as alternate gene silencing products.

For independent verification of Pcf11 (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-96335A, sc-96335B and sc-96335C.

PROTOCOLS

See our web site at www.scbt.com or our catalog 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

Pcf11 siRNA (h) is recommended for the inhibition of Pcf11 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

Pcf11 (C-9): sc-514158 is recommended as a control antibody for monitoring of Pcf11 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 (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Pcf11 gene expression knockdown using RT-PCR Primer: Pcf11 (h)-PR: sc-96335-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.