SANTA CRUZ BIOTECHNOLOGY, INC.

Pcf11 (C-9): sc-514158

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The Power to Question

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. Hollingworth, D., et al. 2006. RNA polymerase II CTD phosphopeptides compete with RNA for the interaction with Pcf11. RNA 12: 555-560.

CHROMOSOMAL LOCATION

Genetic locus: PCF11 (human) mapping to 11q14.1; Pcf11 (mouse) mapping to 7 E1.

SOURCE

Pcf11 (C-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 737-767 within an internal region of Pcf11 of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-514158 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Pcf11 (C-9) is recommended for detection of Pcf11 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Pcf11 siRNA (h): sc-96335, Pcf11 siRNA (m): sc-152106, Pcf11 shRNA Plasmid (h): sc-96335-SH, Pcf11 shRNA Plasmid (m): sc-152106-SH, Pcf11 shRNA (h) Lentiviral Particles: sc-96335-V and Pcf11 shRNA (m) Lentiviral Particles: sc-152106-V.

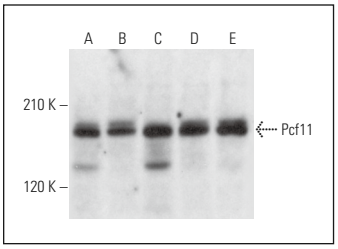
Molecular Weight of Pcf11: 173 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, HEK293T whole cell lysate: sc-45137 or HeLa nuclear extract: sc-2120.

RECOMMENDED SUPPORT REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



Pcf11 (C-9): sc-514158. Western blot analysis of Pcf11 expression in CCRF-CEM (**A**), HeLa (**B**), Jurkat (**C**) and HEK293T (**D**) whole cell lysates and HeLa nuclear extract (**E**).

SELECT PRODUCT CITATIONS

1. Wang, R., et al. 2019. Regulation of intronic polyadenylation by Pcf11 impacts mRNA expression of long genes. Cell Rep. 26: 2766-2778.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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