

Pcf11 (C-9): sc-514158

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 11q14.1, 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 IgG₃ 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.

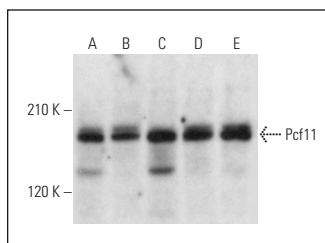
Molecular Weight of Pcf11: 173 kDa.

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.