

Positive cofactor 4 (H-8): sc-166279

BACKGROUND

In eukaryotic cells, transcription is regulated in part by high molecular weight co-activating complexes that mediate signals between transcriptional activators and RNA polymerase. RNA polymerase II (RNAPII) holoenzyme contains numerous proteins that largely consist of RNA processing factors, RNA helicase, general transcription factors and SRB co-activating complexes. RNAPII mediated basal- and gene-specific transcriptional activation requires the association of various cofactors that includes PC4 (human Positive cofactor 4). Positive cofactor 4 interacts with the activation domain of transcription factor IIA (TFIIA) and TATA-binding protein (TBP)-associated factors (TAFs) to directly bind to double stranded DNA. Positive cofactor 4 induces both activation and repression of RNAPII basal transcription, depending on the presence or absence of these transcription factors and holoenzyme components. Additionally, Positive cofactor 4 is phosphorylated by TFIIID and TFIIH, which releases Positive cofactor 4 from the DNA promoter region and thereby inhibits the assembly of Positive cofactor 4 into the transcriptional promoting complex and blocks transcription.

REFERENCES

1. Ge, H. and Roeder, R.G. 1994. Purification, cloning, and characterization of a human co-activator, PC4, that mediates transcriptional activation of class II genes. *Cell* 78: 513-523.
2. Kaiser, K., et al. 1995. The co-activator p15 (PC4) initiates transcriptional activation during TFIIA-TFIIID-promoter complex formation. *EMBO J.* 14: 3520-3527.
3. Chao, D.M., et al. 1996. A mammalian SRB protein associated with an RNA polymerase II holoenzyme. *Nature* 380: 82-85.
4. Malik, S., et al. 1998. A dynamic model for PC4 co-activator function in RNA polymerase II transcription. *Proc. Natl. Acad. Sci. USA* 95: 2192-2197.

CHROMOSOMAL LOCATION

Genetic locus: SUB1 (human) mapping to 5p13.3.

SOURCE

Positive cofactor 4 (H-8) is a mouse monoclonal antibody raised against amino acids 14-127 mapping at the C-terminus of Positive cofactor 4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-166279 X, 200 µg/0.1 ml.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

Positive cofactor 4 (H-8) is recommended for detection of Positive cofactor 4 of 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), immunohistochemistry (including paraffin-embedded sections) (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 Positive cofactor 4 siRNA (h): sc-38583, Positive cofactor 4 shRNA Plasmid (h): sc-38583-SH and Positive cofactor 4 shRNA (h) Lentiviral Particles: sc-38583-V.

Positive cofactor 4 (H-8) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

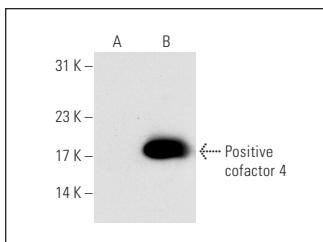
Molecular Weight of Positive cofactor 4: 15 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, Jurkat whole cell lysate: sc-2204 or Positive cofactor 4 (h2): 293 Lysate: sc-112271.

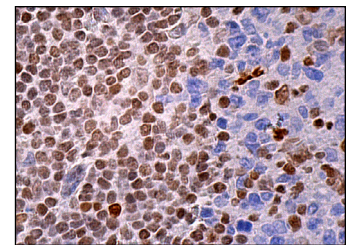
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Positive cofactor 4 (H-8): sc-166279. Western blot analysis of Positive cofactor 4 expression in non-transfected: sc-110760 (A) and human Positive cofactor 4 transfected: sc-112271 (B) 293 whole cell lysates.



Positive cofactor 4 (H-8): sc-166279. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing nuclear staining of cells in non-germinal center.

RESEARCH USE

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