SANTA CRUZ BIOTECHNOLOGY, INC.

Positive cofactor 4 (H-12): sc-166280

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 TFIID 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-TFIID-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-12) 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-166280 X, 200 µg/0.1 ml.

Positive cofactor 4 (H-12) is available conjugated to agarose (sc-166280 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166280 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166280 PE), fluorescein (sc-166280 FITC), Alexa Fluor® 488 (sc-166280 AF488), Alexa Fluor® 546 (sc-166280 AF546), Alexa Fluor® 594 (sc-166280 AF594) or Alexa Fluor® 647 (sc-166280 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166280 AF680) or Alexa Fluor® 790 (sc-166280 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Positive cofactor 4 (H-12) 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).

Positive cofactor 4 (H-12) is also recommended for detection of Positive cofactor 4 in additional species, including equine and porcine.

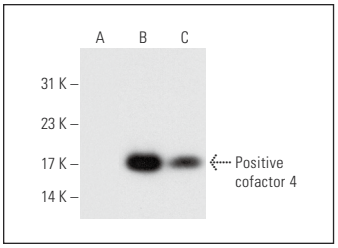
Suitable for use as control antibody for Positive cofactor 4 siRNA (h): sc-38583, Positive cofactor 4 shRNA Plasmid (h): sc-38583-SH, Positive cofactor 4 shRNA (h) Lentiviral Particles: sc-38583-V.

Positive cofactor 4 (H-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

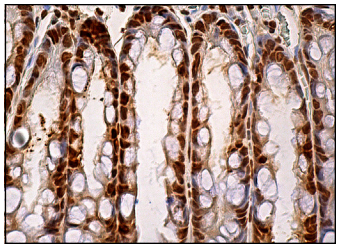
Molecular Weight of Positive cofactor 4: 15 kDa.

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

DATA



Positive cofactor 4 (H-12): sc-166280. Western blot analysis of Positive cofactor 4 expression in non-transfected 293: sc-110760 (**A**), human Positive cofactor 4 transfected 293: sc-112271 (**B**) and Jurkat (**C**) whole cell lysates.



Positive cofactor 4 (H-12): sc-166280. Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing nuclear and cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Mortusewicz, O., et al. 2016. PC4 promotes genome stability and DNA repair through binding of ssDNA at DNA damage sites. Oncogene 35: 761-770.

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.