

## NC2 $\alpha$ (H-3): sc-374336

### BACKGROUND

NC2 (negative cofactor 2) is a dimeric histone-fold complex that represses RNA polymerase II transcription through binding to TBP and inhibiting the transcription factors TFIIA and TFIIIB. NC2 consists of two subunits, termed NC2 $\alpha$  and NC2 $\beta$ , and these subunits dimerize and bind to TBP-promoter complexes via histone fold domains of the H2A-H2B type. NC2 associates with promoters in a manner that correlates with transcriptional activity and with occupancy by basal transcription factors. NC2 binds directly to DNA, and the binding of NC2 to TBP-promoter complexes affects the conformation of DNA, and results in the inhibition of TFIIIB.

### REFERENCES

- Goppelt, A. and Meisterernst, M. 1996. Characterization of the basal inhibitor of class II transcription NC2 from *Saccharomyces cerevisiae*. *Nucleic Acids Res.* 24: 4450-4455.
- Goppelt, A., Stelzer, G., Lottspeich, F. and Meisterernst, M. 1996. A mechanism for repression of class II gene transcription through specific binding of NC2 to TBP-promoter complexes via heterodimeric histone fold domains. *EMBO J.* 15: 3105-3116.
- Teichmann, M., Wang, Z., Martinez, E., Tjernberg, A., Zhang, D., Vollmer, F., Chait, B.T. and Roeder, R.G. 1999. Human TATA-binding protein-related factor-2 (hTRF2) stably associates with hTFIIA in HeLa cells. *Proc. Natl. Acad. Sci. USA* 96: 13720-13725.
- Xie, J., Collart, M., Lemaire, M., Stelzer, G. and Meisterernst, M. 2000. A single point mutation in TFIIA suppresses NC2 requirement *in vivo*. *EMBO J.* 19: 672-682.
- Geisberg, J.V., Holstege, F.C., Young, R.A. and Struhl, K. 2001. Yeast NC2 associates with the RNA polymerase II preinitiation complex and selectively affects transcription *in vivo*. *Mol. Cell. Biol.* 21: 2736-2742.

### CHROMOSOMAL LOCATION

Genetic locus: DRAP1 (human) mapping to 11q13.1; Drap1 (mouse) mapping to 19 A.

### SOURCE

NC2 $\alpha$  (H-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 47-82 within an internal region of NC2 $\alpha$  of human origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgM 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-374336 X, 200  $\mu$ g/0.1 ml.

Blocking peptide available for competition studies, sc-374336 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

### RESEARCH USE

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

### APPLICATIONS

NC2 $\alpha$  (H-3) is recommended for detection of NC2 $\alpha$  of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

NC2 $\alpha$  (H-3) is also recommended for detection of NC2 $\alpha$  in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for NC2 $\alpha$  siRNA (h): sc-38091, NC2 $\alpha$  siRNA (m): sc-38092, NC2 $\alpha$  shRNA Plasmid (h): sc-38091-SH, NC2 $\alpha$  shRNA Plasmid (m): sc-38092-SH, NC2 $\alpha$  shRNA (h) Lentiviral Particles: sc-38091-V and NC2 $\alpha$  shRNA (m) Lentiviral Particles: sc-38092-V.

NC2 $\alpha$  (H-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

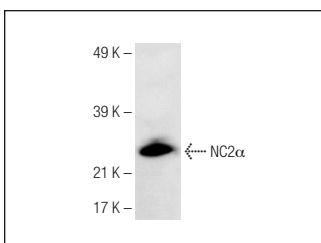
Molecular Weight of NC2 $\alpha$ : 20 kDa.

Positive Controls: SK-BR-3 nuclear extract: sc-2134 or MIA PaCa-2 whole cell lysate: sc-2285.

### RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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



NC2 $\alpha$  (H-3): sc-374336. Western blot analysis of NC2 $\alpha$  expression in MIA PaCa-2 whole cell lysate.

### 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](http://www.scbt.com) for detailed protocols and support products.