## SANTA CRUZ BIOTECHNOLOGY, INC.

# HiNF-P (W-19): sc-49821



#### BACKGROUND

HiNF-P is a critial transcription factor which is necessay for E2F-independent activation of the Histone H4 multigene family. HiNF-P associates with conserved H4 cell cycle regulatory sequences *in vivo*. Antisense inhibition of HiNF-P reduces endogenous Histone H4 gene expression. HiNF-P utilizes NPAT/p220, a substrate of the cyclin E/cyclin-dependent kinase 2 (CDK2) kinase complex, as a crucial coactivator to amplify Histone H4 gene transcription. The biological role of HiNF-P is reflected by impeded cell cycle progression into S phase upon antisense-mediated reduction of HiNF-P levels. Research indicates that HiNF-P is the key link in a linear signaling pathway that is initiated with the growth factor-dependent induction of cyclin E/CDK2 kinase activity at the restriction point and culminates in the activation of Histone H4 genes through HiNF-P at the G<sub>1</sub>/S phase transition.

#### REFERENCES

- van Wijnen, A.J., Ramsey-Ewing, A.L., Bortell, R., Owen, T.A., Lian, J.B., Stein, J.L. and Stein, GS. 1991. Transcriptional element H4-site II of cell cycle regulated human H4 Histone genes is a multipartite protein/DNA interaction site for factors HiNF-D, HiNF-M, and HiNF-P: involvement of phosphorylation. J. Cell. Biochem. 46: 174-189.
- van den Ent, F.M., van Wijnen, A.J., Last, T.J., Bortell, R., Stein, J.L., Lian, J.B. and Stein, G.S. 1993. Concerted control of multiple histone promoter factors during cell density inhibition of proliferation in osteosarcoma cells: reciprocal regulation of cell cycle-controlled and bone-related genes. Cancer Res. 53: 2399-2409.
- 3. Aziz, F., van Wijnen, A.J., Stein, J.L. and Stein, G.S. 1998. HiNF-D (CDP-cut/CDC2 cell cycle activation of human Histone H4 gene transcription at the  $G_1/S$  phase transition. J. Cell. Physiol. 177: 453-464.
- Aziz, F., van Wijnen, A.J., Vaughan, P.S., Wu, S., Shakoori, A.R., Lian, J.B., Soprano, K.J., Stein, J.L. and Stein, G.S. 1998. The integrated activities of IRF-2 (HiNF-M), CDP/cut (HiNF-D) and H4TF-2 (HiNF-P) regulate transcription of a cell cycle controlled human Histone H4 gene: mechanistic differences between distinct H4 genes. Mol. Biol. Rep. 25: 1-12.
- Hovhannisyan, H., Cho, B., Mitra, P., Montecino, M., Stein, G.S., Van Wijnen, A.J. and Stein, J.L. 2003. Maintenance of open chromatin and selective genomic occupancy at the cell cycle-regulated Histone H4 promoter during differentiation of HL-60 promyelocytic leukemia cells. Mol. Cell. Biol. 23: 1460-1469.
- Mitra, P., Xie, R.L., Medina, R., Hovhannisyan, H., Zaidi, S.K., Wei, Y., Harper, J.W., Stein, J.L., van Wijnen, A.J. and Stein, GS. 2003. Identification of HiNF-P, a key activator of cell cycle-controlled Histone H4 genes at the onset of S phase. Mol. Cell. Biol. 23: 8110-8123.

### CHROMOSOMAL LOCATION

Genetic locus: HINFP (human) mapping to 11q23.3; Hinfp (mouse) mapping to 9 A5.2.

#### SOURCE

HiNF-P (W-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HiNF-P of human origin.

#### PRODUCT

Each vial contains 200  $\mu g$  lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-49821 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-49821 X, 200  $\mu g/0.1$  ml.

#### **APPLICATIONS**

HiNF-P (W-19) is recommended for detection of HiNF-P of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

HiNF-P (W-19) is also recommended for detection of HiNF-P in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for HiNF-P siRNA (h): sc-60790, HiNF-P siRNA (m): sc-60791, HiNF-P shRNA Plasmid (h): sc-60790-SH, HiNF-P shRNA Plasmid (m): sc-60791-SH, HiNF-P shRNA (h) Lentiviral Particles: sc-60790-V and HiNF-P shRNA (m) Lentiviral Particles: sc-60791-V.

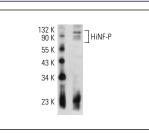
HiNF-P (W-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of HiNF-P: 65 kDa.

Molecular Weight of ubiquitinated HiNF-P: 83-109 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or mouse brain extract: sc-2253.

#### DATA



132 K	-	4	
90 K	•	< HiNF-P	
55 K	•		
43 K	•		
34 K			

HiNF-P (W-19): sc-49821. Western blot analysis of HiNF-P expression in mouse brain tissue extract.

HiNF-P (W-19): sc-49821. Western blot analysis of HiNF-P expression in NIH/3T3 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.

#### **RESEARCH USE**

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