SANTA CRUZ BIOTECHNOLOGY, INC.

p-HDAC4 (Ser 632): sc-101691

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

In the intact cell, DNA closely associates with histones and other nuclear proteins to form chromatin. The remodeling of chromatin is believed to be a critical component of transcriptional regulation and a major source of this remodeling is brought about by the acetylation of nucleosomal histones. Acetylation of lysine residues in the amino-terminal tail domain of histone results in an allosteric change in the nucleosomal conformation and an increased accessibility to transcription factors by DNA. Conversely, the deacetylation of histones is associated with transcriptional silencing. Several mammalian proteins have been identified as nuclear histone acetylases, including GCN5, p300/CBP, PCAF (p300/CBP-associated factor), HAT1 and the TFIID subunit TAF II p250. Mammalian HDAC1 (also designated HD1), HDAC2 (also designated RPD3) and HDAC3-6 have been identified as histone deacetylases.

REFERENCES

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2. Braunstein, M., et al. 1993. Transcriptional silencing in yeast is associated with reduced nucleosome acetylation. Genes Dev. 7: 592-604.
3. Bauer, W.R., et al. 1994. Nucleosome structural changes due to acetylation. J. Mol. Biol. 236: 685-690.
4. Taunton, J., et al. 1996. A mammalian histone deacetylase related to the yeast transcriptional regulator Rpd3p. Science 272: 408-411.
5. Utley, R.T., et al. 1998. Transcriptional activators direct histone acetyltransferase complexes to nucleosomes. Nature 394: 498-502.
6. Verreault, A., et al. 1998. Nucleosomal DNA regulates the core-histone-binding subunit of the human HAT1 acetyltransferase. Curr. Biol. 8: 96-108.
7. Kuo, M.H., et al. 1998. Roles of histone acetyltransferase and deacetylases in gene regulation. Bioessays 20: 615-626.
8. Emiliani, S., et al. 1998. Characterization of a human RPD3 ortholog, HDAC3. Proc. Natl. Acad. Sci. USA 95: 2795-2800.
9. Grozinger, C.M., et al. 1999. Three proteins define a class of human histone deacetylases related to yeast Hda1p. Proc. Natl. Sci. USA 96: 4868-4873.

CHROMOSOMAL LOCATION

Genetic locus: HDAC4 (human) mapping to 2q37.3; Hdac4 (mouse) mapping to 1 D.

SOURCE

p-HDAC4 (Ser 632) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 632 of HDAC4 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

p-HDAC4 (Ser 632) is recommended for detection of Ser 632 phosphorylated HDAC4 of human origin, correspondingly phosphorylated Ser 629 of mouse origin and correspondingly phosphorylated Ser 631 of rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1–2 µg per 100–500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for HDAC4 siRNA (h): sc-35540 and HDAC4 siRNA (m): sc-35541.

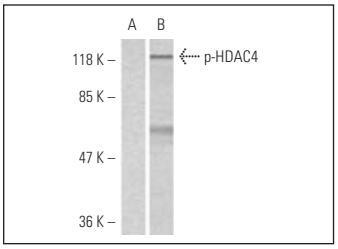
Molecular Weight of p-HDAC4: 140 kDa.

Positive Controls: Jurkat + Calyculin A whole cell lysate: sc-2277.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



p-HDAC4 (Ser 632): sc-101691. Western blot analysis of phosphorylated HDAC4 expression in untreated (**A**) and Calyculin A-treated (**B**) Jurkat whole cell lysates.

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 or our catalog for detailed protocols and support products.