SANTA CRUZ BIOTECHNOLOGY, INC.

p-HDAC5 (Ser 498): sc-101692

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

1. Lee, D.Y., et al. 1993. A positive role for histone acetylation in transcription factor access to nucleosomal DNA. Cell 72: 73-82.
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. Brownell, J.E., et al. 1996. Tetrahymena histone acetyltransferase A: a homolog to yeast Gcn5p linking histone acetylation to gene activation. Cell 84: 843-851.
5. Yang, X.J., et al. 1996. A p300/CBP-associated factor that competes with the adenoviral oncoprotein E1A. Nature 382: 319-324.
6. Taunton, J., et al. 1996. A mammalian histone deacetylase related to the yeast transcriptional regulator Rpd3p. Science 272: 408-411.
7. Yang, W.-M., et al. 1996. Transcriptional repression by YY1 is mediated by interaction with a mammalian homolog of the yeast global regulator RPD3. Proc. Natl. Acad. Sci. USA 93: 12845-12850.
8. Bartl, S., et al. 1997. Identification of mouse histone deacetylase 1 as a growth factor-inducible gene. Mol. Cell. Biol. 17: 5033-5043.
9. Emiliani, S., et al. 1998. Characterization of a human RPD3 ortholog, HDAC3. Proc. Natl. Acad. Sci. USA 95: 2795-2800.

CHROMOSOMAL LOCATION

Genetic locus: HDAC5 (human) mapping to 17q21.31; Hdac5 (mouse) mapping to 11 D.

SOURCE

p-HDAC5 (Ser 498) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 498 of HDAC5 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.

APPLICATIONS

p-HDAC5 (Ser 498) is recommended for detection of Ser 498 phosphorylated HDAC5 of human origin and correspondingly phosphorylated Ser 488 of mouse 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 and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for HDAC5 siRNA (h): sc-35542 and HDAC5 siRNA (m): sc-35543.

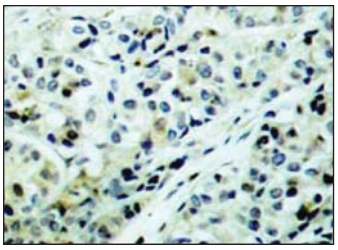
Molecular Weight of p-HDAC5: 140-150 kDa.

Positive Controls: human breast carcinoma tissue or NIH/3T3 whole cell lysate: sc-2210.

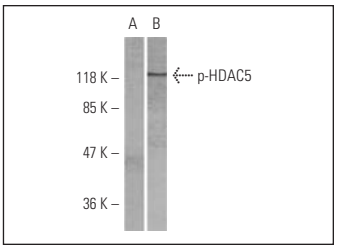
RECOMMENDED SECONDARY REAGENTS

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 B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



p-HDAC5 (Ser 498): sc-101692. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing nuclear staining.



Western blot analysis of phosphorylated HDAC5 expression in NIH/3T3 whole cell lysates. Blots were probed with p-HDAC5 (Ser 498): sc-101692 preincubated with cognate phosphorylated peptide (**A**) and p-HDAC5 (Ser 498): sc-101692 (**B**).

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.