SANTA CRUZ BIOTECHNOLOGY, INC.

p-HDAC8 (Ser 39): sc-101693

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, PCAF (p300/CBP-associated factor), p300/CBP, HAT1 and the TFIID subunit TAF II p250. Mammalian HDAC8, isolated from human kidney, is a histone deacetylase that shares homology to other HDACs but has different tissue distribution. HDAC8 is localized to the nucleus and plays a role in the development of a broad range of tissues and in the etiology of cancer.

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. Utley, R.T., et al. 1998. Transcriptional activators direct histone acetyltransferase complexes to nucleosomes. Nature 394: 498-502.
5. Verreault, A., et al. 1998. Nucleosomal DNA regulates the core-histone-binding subunit of the human Hat1 acetyltransferase. Curr. Biol. 8: 96-108.
6. Hu, E., et al. 2000. Cloning and characterization of a novel human class I histone deacetylase that functions as a transcription repressor. J. Biol. Chem. 275: 15254-15264.
7. Waltregny, D., et al. 2004. Expression of histone deacetylase 8, a class I histone deacetylase, is restricted to cells showing smooth muscle differentiation in normal human tissues. Am. J. Pathol. 165: 553-564.
8. Somoza, J.R., et al. 2005. Structural snapshots of human HDAC8 provide insights into the class I histone deacetylases. Structure 12:1325-1334.
9. Waltregny, D., et al. 2005. Histone deacetylase HDAC8 associates with smooth muscle α-Actin and is essential for smooth muscle cell contractility. FASEB J. 19: 966-968.

CHROMOSOMAL LOCATION

Genetic locus: HDAC8 (human) mapping to Xq13.1; Hdac8 (mouse) mapping to X D.

SOURCE

p-HDAC8 (Ser 39) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 39 of HDAC8 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-HDAC8 (Ser 39) is recommended for detection of Ser 39 phosphorylated HDAC8 of mouse, rat and human origin by immunofluorescence and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

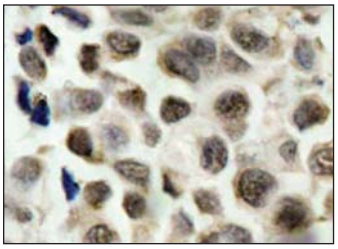
Suitable for use as control antibody for HDAC8 siRNA (h): sc-35548, HDAC8 siRNA (h2): sc-44305 and HDAC8 siRNA (m): sc-35549.

Molecular Weight of p-HDAC8: 44 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) 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. 2) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



p-HDAC8 (Ser 39): sc-101693. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing nuclear staining.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.