SANTA CRUZ BIOTECHNOLOGY, INC.

HDAC7 (h2): 293T Lysate: sc-117296

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 HDAC7 is a histone deacetylase that interacts with the adaptor mSin3A. The interaction of HDAC7 with mSin3A suggests the association of multiple repression complexes of transcription factors.

REFERENCES

1. Lee, D.Y., Hayes, J.J., Pruss, D. and Wolffe, A.P. 1993. A positive role for histone acetylation in transcription factor access to nucleosomal DNA. Cell 72: 73-82.
2. Braunstein, M., Rose, A.B., Holmes, S.G., Allis, C.D. and Broach, J.R. 1993. Transcriptional silencing in yeast is associated with reduced nucleosome acetylation. Genes Dev. 7: 592-604.
3. Bauer, W.R., Hayes, J.J., White, J.H. and Wolffe, A.P. 1994. Nucleosome structural changes due to acetylation. J. Mol. Biol. 236: 685-690.
4. Utley, R.T., Ikeda, K., Grant, P.A., Côté, J., Steger, D.J., Eberharter, A., John, S. and Workman, J.L. 1998. Transcriptional activators direct histone acetyltransferase complexes to nucleosomes. Nature 394: 498-502.
5. Verreault, A., Kaufman, P.D., Kobayashi, R. and Stillman, B. 1998. Nucleosomal DNA regulates the core-histone-binding subunit of the human HAT1 acetyltransferase. Curr. Biol. 8: 96-108.
6. Kao, H.Y., Downes, M., Ordentlich, P. and Evans, R.M. 2000. Isolation of a novel histone deacetylase reveals that class I and class II deacetylases promote SMRT-mediated repression. Genes Dev. 14: 55-66.

CHROMOSOMAL LOCATION

Genetic locus: HDAC7A (human) mapping to 12q13.11.

PRODUCT

HDAC7 (h): 293T Lysate represents a lysate of human HDAC7 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

HDAC7 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive HDAC7 antibodies. Recommended use: 10-20 µl per lane.

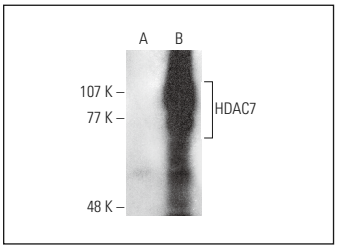
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

HDAC7 (A-7): sc-74563 is recommended as a positive control antibody for Western Blot analysis of enhanced human HDAC7 expression in HDAC7 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

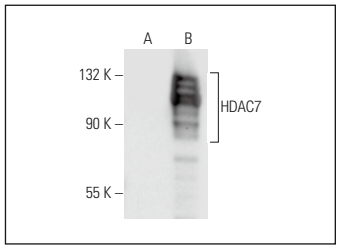
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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.

DATA



HDAC7 (A-7) HRP: sc-74563 HRP. Direct western blot analysis of HDAC7 expression in non-transfected: sc-117752 (**A**) and human HDAC7 transfected: sc-117296 (**B**) 293T whole cell lysates.



HDAC7 (A-7): sc-74563. Western blot analysis of HDAC7 expression in non-transfected: sc-117752 (**A**) and human HDAC7 transfected: sc-117296 (**B**) 293T whole cell lysates.

RESEARCH USE

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