SANTA CRUZ BIOTECHNOLOGY, INC.

HDAC7 (C-18): sc-11491

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, 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., 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.

CHROMOSOMAL LOCATION

Genetic locus: HDAC7A (human) mapping to 12q13.11; Hdac7a (mouse) mapping to 15 F1.

SOURCE

HDAC7 (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of HDAC7 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-11491 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HDAC7 (C-18) is recommended for detection of HDAC7 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).

Suitable for use as control antibody for HDAC7 siRNA (h): sc-35546, HDAC7 siRNA (m): sc-35547, HDAC7 shRNA Plasmid (h): sc-35546-SH, HDAC7 shRNA Plasmid (m): sc-35547-SH, HDAC7 shRNA (h) Lentiviral Particles: sc-35546-V and HDAC7 shRNA (m) Lentiviral Particles: sc-35547-V.

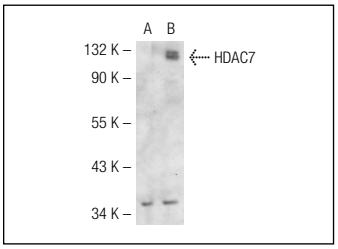
Molecular Weight of HDAC7: 105 kDa.

Positive Controls: HDAC7 (h2): 293T Lysate: sc-117296, NIH/3T3 whole cell lysate: sc-2210 or NIH/3T3 nuclear extract: sc-2138.

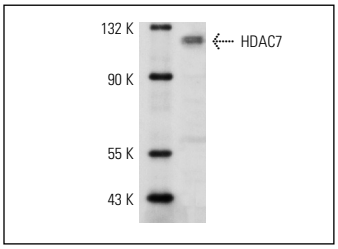
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



HDAC7 (C-18): sc-11491. Western blot analysis of HDAC7 expression in non-transfected: sc-117752 (**A**) and human HDAC7 transfected: sc-117296 (**B**) 293T whole cell lysates.



HDAC7 (C-18): sc-11491. Western blot analysis of HDAC7 expression in NIH/3T3 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Miles, R.R., et al. 2005. Analysis of BCL6-interacting proteins by tandem mass spectrometry. Mol. Cell. Proteomics 4: 1898-1909.
2. Li, B., et al. 2007. FOXP3 interactions with histone acetyltransferase and class II histone deacetylases are required for repression. Proc. Natl. Acad. Sci. USA 104: 4571-4576.
3. Margariti, A., et al. 2009. Splicing of HDAC7 modulates the SRF-myocardin complex during stem-cell differentiation towards smooth muscle cells. J. Cell Sci. 122: 460-470.
4. Zhu, C., et al. 2011. The role of histone deacetylase 7 (HDAC7) in cancer cell proliferation: regulation on c-Myc. J. Mol. Med. 89: 279-289.
5. Isaacs, J.T., et al. 2013. Tasquinimod is an allosteric modulator of HDAC4 survival signaling within the compromised cancer microenvironment. Cancer Res. 73: 1386-1399.
6. Barneda-Zahonero, B., et al. 2013. HDAC7 is a repressor of myeloid genes whose downregulation is required for transdifferentiation of pre-B cells into macrophages. PLoS Genet. 9: e1003503.

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.