

# HDAC7 (H-273): sc-11421

## 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 (for p300/CBP-associated factor), p300/CBP 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.
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. Kao, H.Y., et al. 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 12q13.1; Hdac7a (mouse) mapping to 15 F2.

## SOURCE

HDAC7 (H-273) is a rabbit polyclonal antibody raised against amino acids 163-435 mapping near the N-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.

Available as TransCruz reagent for ChIP application, sc-11421 X, 200 µg/0.1 ml.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

HDAC7 (H-273) is recommended for detection of HDAC4, 5 and 7 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).

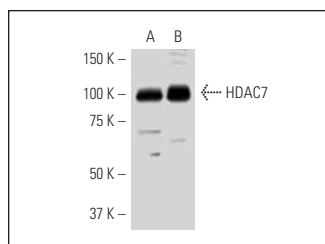
Suitable for use as control antibody for HDAC7 siRNA (h): sc-35546 and HDAC7 siRNA (m): sc-35547.

HDAC7 (H-273) X TransCruz antibody is recommended for ChIP assays.

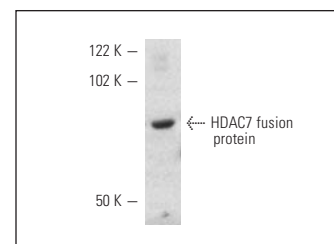
Molecular Weight of HDAC7: 110 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, NIH/3T3 nuclear extract: sc-2138 or SUP-T1 cell lysate.

## DATA



HDAC7 (H-273): sc-11421. Western blot analysis of HDAC7 expression in NIH/3T3 whole cell lysate (A) and NIH/3T3 nuclear extract (B).



HDAC7 (H-273): sc-11421. Western blot analysis of human recombinant HDAC7 fusion protein.

## SELECT PRODUCT CITATIONS

1. Metivier, R., et al. 2003. Estrogen receptor- $\alpha$  directs ordered, cyclical and combinatorial recruitment of cofactors on a natural target promoter. *Cell* 115: 751-763.
2. Reid, G., et al. 2005. Multiple mechanisms induce transcriptional silencing of a subset of genes, including oestrogen receptor  $\alpha$ , in response to deacetylase inhibition by valproic acid and trichostatin A. *Oncogene* 24: 4894-4907.
3. Stossi, F., et al. 2006. Estrogen-occupied estrogen receptor represses cyclin G2 gene expression and recruits a repressor complex at the cyclin G2 promoter. *J. Biol. Chem.* 281: 16272-16278.
4. Kasler, H., et al. 2007. Histone deacetylase 7 functions as a key regulator of genes involved in both positive and negative selection of thymocytes. *Mol. Cell. Biol.* 27: 5184-5200.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.