

HDAC7 (N-18): sc-11489

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

- Lee, D.Y., et al. 1993. A positive role for histone acetylation in transcription factor access to nucleosomal DNA. *Cell* 72: 73-82.
- Braunstein, M., et al. 1993. Transcriptional silencing in yeast is associated with reduced nucleosome acetylation. *Genes Dev.* 7: 592-604.
- Bauer, W.R., et al. 1994. Nucleosome structural changes due to acetylation. *J. Mol. Biol.* 236: 685-690.
- Utley, R.T., et al. 1998. Transcriptional activators direct histone acetyltransferase complexes to nucleosomes. *Nature* 394: 498-502.
- Verreault, A., et al. 1998. Nucleosomal DNA regulates the core-histone-binding subunit of the human Hat1 acetyltransferase. *Curr. Biol.* 8: 96-108.
- 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: HDAC7 (human) mapping to 12q13.11; Hdac7 (mouse) mapping to 15 F1.

SOURCE

HDAC7 (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of HDAC7 of mouse 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-11489 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

HDAC7 (N-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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

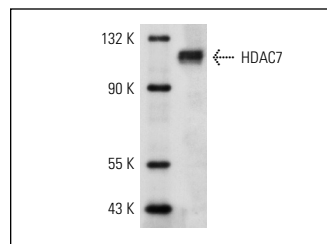
HDAC7 (N-18) is also recommended for detection of HDAC7 in additional species, including canine and bovine.

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.

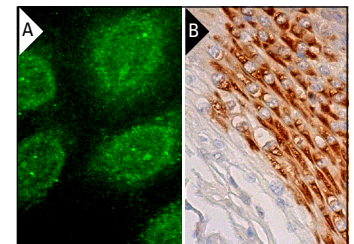
Molecular Weight of HDAC7: 105 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, NIH/3T3 whole cell lysate: sc-2210 or NIH/3T3 nuclear extract: sc-2138.

DATA



HDAC7 (N-18): sc-11489. Western blot analysis of HDAC7 expression in NIH/3T3 whole cell lysate.



HDAC7 (N-18): sc-11489. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing cytoplasmic staining of squamous epithelial cells (B).

SELECT PRODUCT CITATIONS

- Dequiedt, F., et al. 2003. HDAC7, a thymus-specific class II histone deacetylase, regulates Nur77 transcription and TCR-mediated apoptosis. *Immunity* 18: 687-698.
- Zhu, P., 2004. Induction of HDAC2 expression upon loss of APC in colorectal tumorigenesis. *Cancer Cell* 5: 455-463.
- Dequiedt, F., et al. 2006. New role for hPar-1 kinases EMK and C-TAK1 in regulating localization and activity of class IIa histone deacetylases. *Mol. Cell. Biol.* 26: 7086-7102.
- Yessoufou, A., et al. 2009. DHA reduces suppressive and migratory functions of Treg cells. *J. Lipid Res.* 50: 2377-2388.

RESEARCH USE

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