

HDAC1 (H-51): sc-7872

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 HDAC1 (also designated HD1) and HDAC2 (also designated mammalian RPD3), both of which are related to the yeast transcriptional regulator Rpd3p, have been identified as histone deacetylases.

CHROMOSOMAL LOCATION

Genetic locus: HDAC1 (human) mapping to 1p35.1; Hdac1 (mouse) mapping to 4 D2.2.

SOURCE

HDAC1 (H-51) is a rabbit polyclonal antibody raised against amino acids 432-482 of HDAC1 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-7872 X, 200 µg/0.1 ml.

APPLICATIONS

HDAC1 (H-51) is recommended for detection of HDAC1 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).

HDAC1 (H-51) is also recommended for detection of HDAC1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for HDAC1 siRNA (h): sc-29343, HDAC1 siRNA (m): sc-29344, HDAC1 siRNA (r): sc-270070, HDAC1 shRNA Plasmid (h): sc-29343-SH, HDAC1 shRNA Plasmid (m): sc-29344-SH, HDAC shRNA Plasmid (r): sc-270070-SHHDAC1 shRNA (h) Lentiviral Particles: sc-29343-V, HDAC1 shRNA (m) Lentiviral Particles: sc-29344-V and HDAC1 shRNA (r) Lentiviral Particles: sc-270070-V.

HDAC1 (H-51) X TransCruz antibody is recommended for ChIP assays.

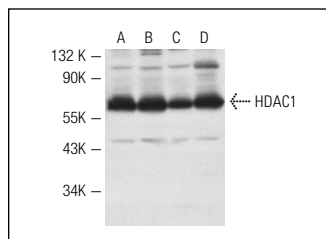
Molecular Weight of HDAC1: 60 kDa.

Positive Controls: NIH/3T3 nuclear extract: sc-2138, HeLa nuclear extract: sc-2120 or KNRK nuclear extract: sc-2141.

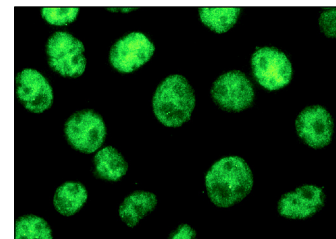
STORAGE

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

DATA



HDAC1 (H-51): sc-7872. Western blot analysis of HDAC1 expression in NIH/3T3 (A), HeLa (B), KNRK (C) and C32 (D) nuclear extracts.



HDAC1 (H-51): sc-7872. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

- Baek, S., et al. 2002. Exchange of N-CoR corepressor and Tip60 coactivator complexes links gene expression by NFκB and β-amyloid precursor protein. *Cell* 110: 55-67.
- Yasui, D., et al. 2002. SATB1 targets chromatin remodelling to regulate genes over long distances. *Nature* 419: 543-652.
- Milutinovic, S., et al. 2002. Proliferating cell nuclear antigen associates with histone deacetylase activity, integrating DNA replication and chromatin modification. *J. Biol. Chem.* 277: 20974-20978.
- Gambino, Y.P., et al. 2012. Regulation of leptin expression by 17β-estradiol in human placental cells involves membrane associated estrogen receptor α. *Biochim. Biophys. Acta* 1823: 900-910.
- Eapen, S.A., et al. 2012. Identification of a novel function for the chromatin remodeling protein ING2 in muscle differentiation. *PLoS ONE* 7: e40684.
- Zimmerman, M.A., et al. 2012. Butyrate suppresses colonic inflammation through HDAC1-dependent Fas upregulation and Fas-mediated apoptosis of T cells. *Am. J. Physiol. Gastrointest. Liver Physiol.* 302: G1405-G1415.
- Sustácková, G., et al. 2012. Acetylation-dependent nuclear arrangement and recruitment of BMI1 protein to UV-damaged chromatin. *J. Cell. Physiol.* 227: 1838-1850.
- Wan, Y., et al. 2012. All-*trans* retinoic acid induces chromatin remodeling at the promoter of the mouse liver, bone, and kidney alkaline phosphatase gene in C3H10T 1/2 cells. *Biochem. Genet.* 50: 495-507.
- Gupta, K., et al. 2012. Green tea polyphenols induce p53-dependent and p53-independent apoptosis in prostate cancer cells through two distinct mechanisms. *PLoS ONE* 7: e52572.
- Margalef, P., et al. 2012. A truncated form of IKKα is responsible for specific nuclear IKK activity in colorectal cancer. *Cell Rep.* 2: 840-854.

RESEARCH USE

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