SANTA CRUZ BIOTECHNOLOGY, INC.

HDAC4 (L-19): sc-5246

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/CBPassociated factor), p300/CBP, HAT1, and the TFIID subunit TAF II p250. Mammalian HDAC1 (also designated HD1), HDAC2 (also designated RPD3) and HDAC3-6, have been identified as histone deacetylases.

CHROMOSOMAL LOCATION

Genetic locus: HDAC4 (human) mapping to 2q37.3; Hdac4 (mouse) mapping to 1 D.

SOURCE

HDAC4 (L-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of HDAC4 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-5246 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for ChIP application, sc-5246 X, 200 µg/0.1 ml.

APPLICATIONS

HDAC4 (L-19) is recommended for detection of HDAC4 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).

HDAC4 (L-19) is also recommended for detection of HDAC4 in additional species, including bovine.

Suitable for use as control antibody for HDAC4 siRNA (h): sc-35540, HDAC4 siRNA (m): sc-35541, HDAC4 shRNA Plasmid (h): sc-35540-SH, HDAC4 shRNA Plasmid (m): sc-35541-SH, HDAC4 shRNA (h) Lentiviral Particles: sc-35540-V and HDAC4 shRNA (m) Lentiviral Particles: sc-35541-V.

HDAC4 (L-19) X TransCruz antibody is recommended for ChIP assays.

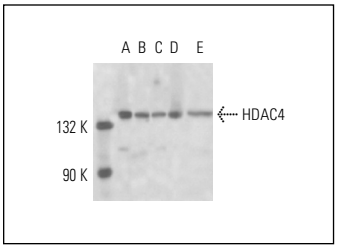
Molecular Weight of HDAC4: 140 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, KNRK nuclear extract: sc-2141 or HeLa nuclear extract: sc-2120.

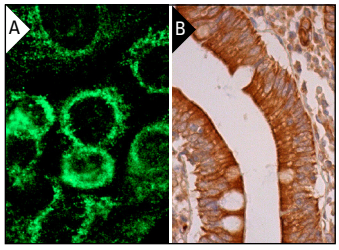
STORAGE

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

DATA



HDAC4 (L-19): sc-5246. Western blot analysis of HDAC4 expression in NIH/3T3 (**A**), HeLa (**B**) and KNRK (**C**) nuclear extracts and NIH/3T3 (**D**) and Jurkat (**E**) whole cell lysates.



HDAC4 (L-19): sc-5246. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplamsic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. 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.
2. Jin, C., et al. 2002. JDP2, a repressor of AP-1, recruits a histone deacetylase 3 complex to inhibit the retinoic acid-induced differentiation of F9 cells. Mol. Cell. Biol. 22: 4815-4826.
3. Kim, J.H., et al. 2005. Transcriptional regulation of a metastasis suppressor gene by Tip60 and β-catenin complexes. Nature 434: 921-926.
4. Micheli, L., et al. 2005. PC4 coactivates MyoD by relieving the histone deacetylase 4-mediated inhibition of myocyte enhancer factor 2C. Mol. Cell. Biol. 25: 2242-2259.
5. Suzuki, A., et al. 2010. Down-regulation of PROS1 gene expression by 17β-estradiol via estrogen receptor α (ERα)-Sp1 interaction recruiting receptor-interacting protein 140 and the corepressor-HDAC3 complex. J. Biol. Chem. 285: 13444-13453.
6. Micheli, L., et al. 2010. PC4/Tis7/IFRD1 stimulates skeletal muscle regeneration and is involved in myoblast differentiation as a regulator of MyoD and NFκB. J. Biol. Chem. 286: 5691-5707.
7. Ueno, M., et al. 2013. Fat-specific protein 27 modulates nuclear factor of activated T cells 5 and the cellular response to stress. J. Lipid Res. 54: 734-743.

RESEARCH USE

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

PROTOCOLS

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