

HDAC4 (H-92): sc-11418

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, p300/CBP, PCAF (p300/CBP-associated factor), 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 (H-92) is a rabbit polyclonal antibody raised against amino acids 530-631 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.

Available as TransCruz reagent for ChIP application, sc-11418 X, 200 µg/0.1 ml.

APPLICATIONS

HDAC4 (H-92) 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).

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 (H-92) X TransCruz antibody is recommended for ChIP assays.

Molecular Weight of HDAC4: 140 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, Jurkat whole cell lysate: sc-2204 or HeLa nuclear extract: sc-2120.

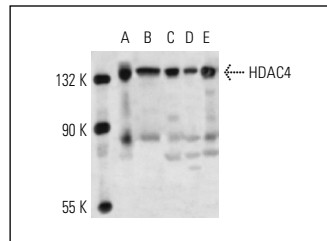
STORAGE

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

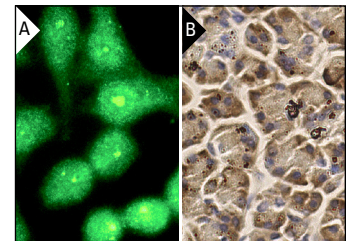
RESEARCH USE

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

DATA



HDAC4 (H-92): sc-11418. Western blot analysis of HDAC4 expression in NIH/3T3 (A) and Jurkat (B) whole cell lysates and HeLa (C), KNRK (D) and NIH/3T3 (E) nuclear extracts.



HDAC4 (H-92): sc-11418. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of glandular cells (B).

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.
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- Saramaki, A., et al. 2009. Cyclical chromatin looping and transcription factor association on the regulatory regions of the p21 (CDKN1A) gene in response to 1α, 25-dihydroxyvitamin D3. *J. Biol. Chem.* 284: 8073-8082.
- Venteclef, N., et al. 2010. GPS2-dependent corepressor/SUMO pathways govern anti-inflammatory actions of LRH-1 and LXRβ in the hepatic acute phase response. *Genes Dev.* 24: 381-395.
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- Smith, J.A., et al. 2010. A role for the histone deacetylase HDAC4 in the life-cycle of HIV-1-based vectors. *Virology* 407: 237.
- Malinen, M., et al. 2011. Cyclical regulation of the Insulin-like growth factor binding protein 3 gene in response to 1α,25-dihydroxyvitamin D3. *Nucleic Acids Res.* 39: 502-512.
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