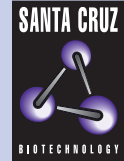


HDAC1 (H-11): sc-8410



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 (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.

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 and Dev.* 7: 592-604.
- Bauer, W.R., et al. 1994. Nucleosome structural changes due to acetylation. *J. Mol. Biol.* 236: 685-690.
- Brownell, J.E., et al. 1996. Tetrahymena histone acetyltransferase A: a homolog to yeast Gcn5p linking histone acetylation to gene activation. *Cell* 84: 843-851.
- Taunton, J., et al. 1996. A mammalian histone deacetylase related to the yeast transcriptional regulator Rpd3p. *Science* 272: 408-411.
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SOURCE

HDAC1 (H-11) is a mouse monoclonal antibody raised against amino acids 432-482 mapping at the C-terminus of HDAC1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as phycoerythrin conjugate for flow cytometry, sc-8410 PE, 100 tests.

Available as TransCruz reagent for ChIP application, sc-8410 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.

RESEARCH USE

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

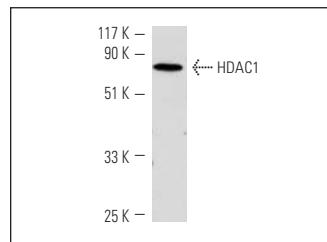
APPLICATIONS

HDAC1 (H-11) is recommended for detection of HDAC1 (also designated HD1) 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), flow cytometry (1 µg per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

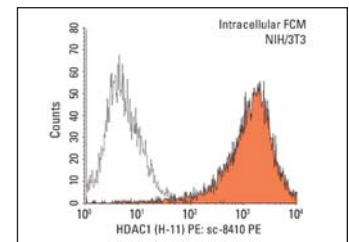
Suitable for use as control antibody for HDAC1 siRNA (h): sc-29343 and HDAC1 siRNA (m): sc-29344.

HDAC1 (H-11) X TransCruz antibody is recommended for ChIP assays.

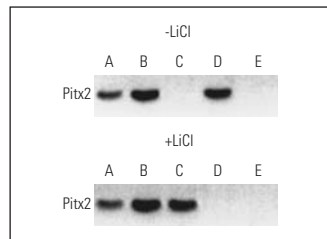
DATA



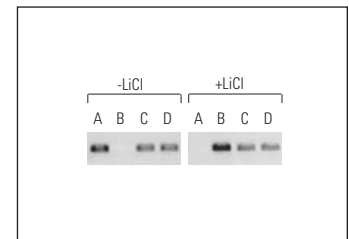
HDAC1 (H-11): sc-8410. Western blot analysis of HDAC1 expression in K-562 nuclear extract.



HDAC1 (H-11) PE: sc-8410 PE. Intracellular FCM analysis of fixed and permeabilized NIH/3T3 cells. Black line histogram represents the isotype control, normal mouse IgG₁: sc-2866.



ChIP analysis of transcription regulatory proteins associated with the Pitx2 promoter in aT3-1 cells in response to lithium. Antibodies tested include LEF-1 (C-19): sc-8592 and LEF-1 (N-17): sc-8591 (B), β-catenin (H-102): sc-7199, β-catenin (C-18): sc-1496 and β-catenin (E-5): sc-7963 (C), HDAC1 (H-11): sc-7872, HDAC1 (C-19): sc-6298 and HDAC1 (H-11): sc-8410 (D), HDAC2 (C-8): sc-9959, HDAC2 (H-54): sc-7899 and HDAC2 (C-19): sc-6296 (E). Input control (A). Data kindly provided by M.G. Rosenfeld and reproduced with permission from Kioussi *et al.*, *Cell* 2002, 111: 673-685.



ChIP analysis of *c-Myc* promoter occupancy in response to lithium stimulation in serum synchronized C2C12 cells. Antibodies tested include HDAC1 (H-15): sc-7872, HDAC1 (C-19): sc-6298 and HDAC1 (H-11): sc-8410 (A), β-catenin (H-120): sc-7199, β-catenin (C-18): sc-1496 and β-catenin (E-5): sc-7963 (B), E2F-4 (A-20): sc-1082, E2F-4 (D-3): sc-6851, E2F-4 (RK-13): sc-511 and E2F-4 (C-20): sc-866 (C), and p130 (C-20): sc-317, p130 (211.6): sc-9963 and p130 (H-125): sc-20678 (D). Data kindly provided by M.G. Rosenfeld and reproduced with permission from *Proc. Natl. Acad. Sci.* 100: 3245-3250. Copyright 2003 National Academy of Sciences, USA.

SELECT PRODUCT CITATIONS

- Soutoglou, E., et al. 2001. Transcription factor-dependent regulation of CBP and P/CAF histone acetyltransferase activity. *EMBO J.* 20: 1984-1992.
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