SANTA CRUZ BIOTECHNOLOGY, INC.

HDAC1 (H-11): sc-8410

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

n 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), HDAC2 (also designated mammalian RPD3) and HDAC3, all of which are related to the yeast transcriptional regulator Rpd3p, have been identified as histone deacetylases.

REFERENCES

1. Lee, D.Y., et al. 1993. A positive role for histone acetylation in transcription factor access to nucleosomal DNA. Cell 72: 73-82.
2. Braunstein, M., et al. 1993. Transcriptional silencing in yeast is associated with reduced nucleosome acetylation. Genes Dev. 7: 592-604.
3. Bauer, W.R., et al. 1994. Nucleosome structural changes due to acetylation. J. Mol. Biol. 236: 685-690.

CHROMOSOMAL LOCATION

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

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 IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for ChIP application, sc-8410 X, 200 µg/0.1 ml.

HDAC1 (H-11) is available conjugated to agarose (sc-8410 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-8410 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8410 PE), fluorescein (sc-8410 FITC), Alexa Fluor® 488 (sc-8410 AF488), Alexa Fluor® 546 (sc-8410 AF546), Alexa Fluor® 594 (sc-8410 AF594) or Alexa Fluor® 647 (sc-8410 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-8410 AF680) or Alexa Fluor® 790 (sc-8410 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

HDAC1 (H-11) 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

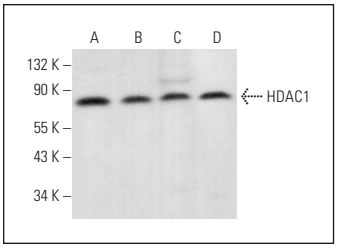
Suitable for use as control antibody for HDAC1 siRNA (h): sc-29343, HDAC1 siRNA (m): sc-29344, HDAC1 siRNA (r): sc-270070, HDAC1 shRNA Plasmid (h): sc-29343-SH, HDAC1 shRNA Plasmid (m): sc-29344-SH, HDAC shRNA Plasmid (r): sc-270070-SH, HDAC1 shRNA (h) Lentiviral Particles: sc-29343-V, HDAC1 shRNA (m)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

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

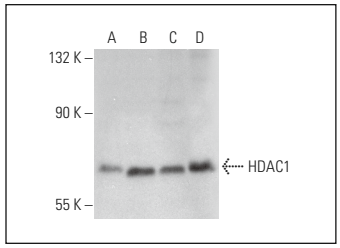
Molecular Weight of HDAC1: 60 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Jurkat whole cell lysate: sc-2204 or NIH/3T3 whole cell lysate: sc-2210.

DATA



HDAC1 (H-11): sc-8410. Western blot analysis of HDAC1 expression in CCRF-CEM (**A**), PC-12 (**B**), C6 (**C**) and TK-1 (**D**) whole cell lysates.



HDAC1 (H-11): sc-8410. Western blot analysis of HDAC1 expression in HeLa (**A**), Jurkat (**B**), K-562 (**C**) and NIH/3T3 (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Soutoglou, E., et al. 2001. Transcription factor-dependent regulation of CBP and P/CAF histone acetyltransferase activity. EMBO J. 20: 1984-1992.
2. Zhang, W., et al. 2018. The intracellular NADH level regulates atrophic nonunion pathogenesis through the CtBP2-p300-Runx2 transcriptional complex. Int. J. Biol. Sci. 14: 2023-2036.
3. Gimeno-Valiente, F., et al. 2019. ZNF518B gene up-regulation promotes dissemination of tumour cells and is governed by epigenetic mechanisms in colorectal cancer. Sci. Rep. 9: 9339.
4. Hou, T., et al. 2020. SIRT6 coordinates with CHD4 to promote chromatin relaxation and DNA repair. Nucleic Acids Res. 48: 2982-3000.
5. Abualsaud, N., et al. 2021. Neuropeptide Y/Y5 receptor pathway stimulates neuroblastoma cell motility through RhoA activation. Front. Cell Dev. Biol. 8: 627090.

RESEARCH USE

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