SANTA CRUZ BIOTECHNOLOGY, INC.

HDAC2 (C-8): sc-9959

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 histones 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

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: HDAC2 (human) mapping to 6q21; Hdac2 (mouse) mapping to 10 B1.

SOURCE

HDAC2 (C-8) is a mouse monoclonal antibody raised against amino acids 435-488 mapping at the C-terminus of HDAC2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-9959 X.

HDAC2 (C-8) is available conjugated to agarose (sc-9959 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-9959 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-9959 PE), fluorescein (sc-9959 FITC), Alexa Fluor® 488 (sc-9959 AF488), Alexa Fluor® 546 (sc-9959 AF546), Alexa Fluor® 594 (sc-9959 AF594) or Alexa Fluor® 647 (sc-9959 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-9959 AF680) or Alexa Fluor® 790 (sc-9959 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

HDAC2 (C-8) is recommended for detection of HDAC2 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

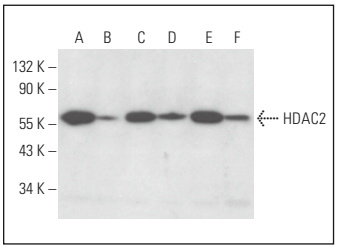
Suitable for use as control antibody for HDAC2 siRNA (h): sc-29345, HDAC2 siRNA (m): sc-29346, HDAC2 siRNA (r): sc-270150, HDAC2 shRNA Plasmid (h): sc-29345-SH, HDAC2 shRNA Plasmid (m): sc-29346-SH, HDAC2 shRNA Plasmid (r): sc-270150-SH, HDAC2 shRNA (h) Lentiviral Particles: sc-29345-V, HDAC2 shRNA (m) Lentiviral Particles: sc-29346-V and HDAC2 shRNA (r) Lentiviral Particles: sc-270150-V.

HDAC2 (C-8) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

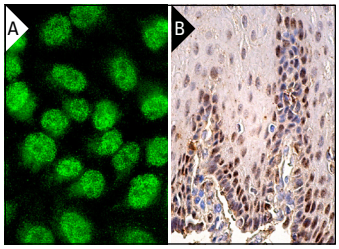
Molecular Weight of HDAC2: 59 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HEL 92.1.7 cell lysate: sc-2270 or NTERA-2 cl.D1 whole cell lysate: sc-364181.

DATA



HDAC2 (C-8): sc-9959. Western blot analysis of HDAC2 expression in K-562 (**A**), C2C12 (**B**), HEL 92.1.7 (**C**), NTERA-2 cl.D1 (**D**), AN3 CA (**E**) and Neuro-2A (**F**) whole cell lysates.



HDAC2 (C-8): sc-9959. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing nuclear staining of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Mirza, A., et al. 2002. Human survivin is negatively regulated by wild-type p53 and participates in p53-dependent apoptotic pathway. Oncogene 21: 2613-2622.
2. Santos, M., et al. 2019. Parkin truncating variants result in a loss-of-function phenotype. Sci. Rep. 9: 16150.
3. Terzi Cizmecioglu, N., et al. 2020. Arid4B is critical for mouse embryonic stem cell differentiation towards mesoderm and endoderm, linking epigenetics to pluripotency exit. J. Biol. Chem. 295: 17738-17751.
4. Kang, D.W., et al. 2021. Phospholipase D1 is upregulated by vorinostat and confers resistance to vorinostat in glioblastoma. J. Cell. Physiol. 236: 549-560.

RESEARCH USE

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