SANTA CRUZ BIOTECHNOLOGY, INC.

HDAC7 (A-7): sc-74563

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/CBP-associated factor), p300/CBP, HAT1 and the TFIID subunit TAF II p250. Mammalian HDAC7 is a histone deacetylase that interacts with the adaptor mSin3A. The interaction of HDAC7 with mSin3A suggests the association of multiple repression complexes of transcription factors.

CHROMOSOMAL LOCATION

Genetic locus: HDAC7 (human) mapping to 12q13.11.

SOURCE

HDAC7 (A-7) is a mouse monoclonal antibody raised against amino acids 163-435 of HDAC7 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} 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-74563 X, 200 µg/0.1 ml.

HDAC7 (A-7) is available conjugated to agarose (sc-74563 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-74563 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-74563 PE), fluorescein (sc-74563 FITC), Alexa Fluor® 488 (sc-74563 AF488), Alexa Fluor® 546 (sc-74563 AF546), Alexa Fluor® 594 (sc-74563 AF594) or Alexa Fluor® 647 (sc-74563 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-74563 AF680) or Alexa Fluor® 790 (sc-74563 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

HDAC7 (A-7) is recommended for detection of HDAC7 of human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for HDAC7 siRNA (h): sc-35546, HDAC7 shRNA Plasmid (h): sc-35546-SH and HDAC7 shRNA (h) Lentiviral Particles: sc-35546-V.

HDAC7 (A-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

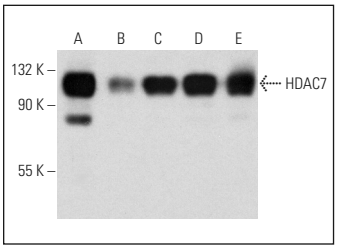
Molecular Weight of HDAC7: 105 kDa.

Positive Controls: NCI-H929 whole cell lysate: sc-364786, Ramos cell lysate: sc-2216 or HuT 78 whole cell lysate: sc-2208.

STORAGE

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

DATA



HDAC7 (A-7): sc-74563. Western blot analysis of HDAC7 expression in NIH: OVCAR-3 (**A**), HuT 78 (**B**), Ramos (**C**), Raji (**D**) and NCI-H929 (**E**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Pham, L., et al. 2011. HDAC3 and HDAC7 have opposite effects on osteoclast differentiation. J. Biol. Chem. 286: 12056-12065.
2. Niegisch, G., et al. 2012. Changes in histone deacetylase (HDAC) expression patterns and activity of HDAC inhibitors in urothelial cancers. Urol. Oncol. 31: 1770-1779.
3. Qiu, H., et al. 2014. ALS-associated mutation FUS-R521C causes DNA damage and RNA splicing defects. J. Clin. Invest. 124: 981-999.
4. Clocchiatti, A., et al. 2015. The MEF2-HDAC axis controls proliferation of mammary epithelial cells and acini formation *in vitro*. J. Cell Sci. 128: 3961-3976.
5. Liu, J., et al. 2016. Both HDAC5 and HDAC6 are required for the proliferation and metastasis of melanoma cells. J. Transl. Med. 14: 7.
6. Di Giorgio, E., et al. 2017. The co-existence of transcriptional activator and transcriptional repressor MEF2 complexes influences tumor aggressiveness. PLoS Genet. 13: e1006752.
7. Pinkerneil, M., et al. 2018. Epigenetic treatment options in urothelial carcinoma. Methods Mol. Biol. 1655: 289-317.
8. Yu, X., et al. 2019. ZNF326 promotes malignant phenotype of glioma by up-regulating HDAC7 expression and activating Wnt pathway. J. Exp. Clin. Cancer Res. 38: 40.
9. Jaguva Vasudevan, A.A., et al. 2019. HDAC5 expression in urothelial carcinoma cell lines inhibits long-term proliferation but can promote epithelial-to-mesenchymal transition. Int. J. Mol. Sci. 20 pii: E2135.
10. Yang, J., et al. 2019. A histone deacetylase 7-derived peptide promotes vascular regeneration via facilitating 14-3-3γ phosphorylation. Stem Cells. E-published.

RESEARCH USE

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