SANTA CRUZ BIOTECHNOLOGY, INC.

HDAC6 (H-300): sc-11420

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 HDAC1 (also designated HD1), HDAC2 (also designated RPD3) and HDAC3-6 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.

CHROMOSOMAL LOCATION

Genetic locus: HDAC6 (human) mapping to Xp11.23.

SOURCE

HDAC6 (H-300) is a rabbit polyclonal antibody raised against amino acids 916-1215 of HDAC6 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.

APPLICATIONS

HDAC6 (H-300) is recommended for detection of HDAC6 of 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 HDAC6 siRNA (h): sc-35544, HDAC6 shRNA Plasmid (h): sc-35544-SH and HDAC6 shRNA (h) Lentiviral Particles: sc-35544-V.

Molecular Weight of HDAC6: 160 kDa.

Positive Controls: K-562 nuclear extract: sc-2130, Jurkat nuclear extract: sc-2132 or HeLa nuclear extract: sc-2120.

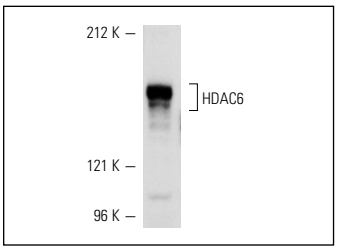
STORAGE

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

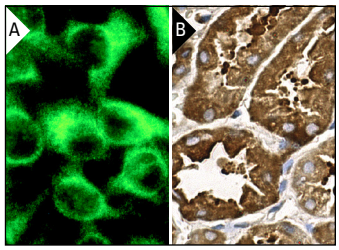
RESEARCH USE

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

DATA



HDAC6 (H-300): sc-11420. Western blot analysis of HDAC6 expression in K-562 nuclear extract.



HDAC6 (H-300): sc-11420. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (**B**).

SELECT PRODUCT CITATIONS

1. Gao, L., et al. 2002. Cloning and functional characterization of HDAC11, a novel member of the human histone deacetylase family. J. Biol. Chem. 277: 25748-25755.
2. Sudo, H., et al. 2010. Acetylation of microtubules influences their sensitivity to severing by katanin in neurons and fibroblasts. J. Neurosci. 30: 7215-7226.
3. Lee, J.Y., et al. 2010. Disease-causing mutations in parkin impair mitochondrial ubiquitination, aggregation, and HDAC6-dependent mitophagy. J. Cell Biol. 189: 671-679.
4. Simon, D., et al. 2010. A mutation in the 3'-UTR of the HDAC6 gene abolishing the post-transcriptional regulation mediated by hsa-miR-433 is linked to a new form of dominant X-linked chondrodysplasia. Hum. Mol. Genet. 19: 2015-2027.
5. Wang, J., et al. 2010. Effect of EGF-induced HDAC6 activation on corneal epithelial wound healing. Invest. Ophthalmol. Vis. Sci. 51: 2943-2948.
6. Park, R., et al. 2011. Efficient induction of nuclear aggresomes by specific single missense mutations in the DNA-binding domain of a viral AP-1 homolog. J. Biol. Chem. 286: 9748-9762.
7. Xu, X., et al. 2011. Inhibition of histone deacetylases 1 and 6 enhances cytarabine-induced apoptosis in pediatric acute myeloid leukemia cells. PLoS ONE 6: e17138.
8. 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.
9. Pozo, F.M., et al. 2011. Molecular chaperone Hsp90 regulates REV1-mediated mutagenesis. Mol. Cell. Biol. 31: 3396-3409.
10. Inomata, M., et al. 2012. Regulation of Toll-like receptor signaling by NDP52-mediated selective autophagy is normally inactivated by A20. Cell. Mol. Life Sci. 69: 963-979.