SANTA CRUZ BIOTECHNOLOGY, INC.

HDAC8 (B-4): sc-365620

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 HDAC8, isolated from human kidney, is a histone deacetylase that shares homology to other HDACs but has different tissue distribution. HDAC8 is localized to the nucleus and plays a role in the development of a broad range of tissues and in the etiology of cancer.

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.
4. Utley, R.T., et al. 1998. Transcriptional activators direct histone acetyltransferase complexes to nucleosomes. Nature 394: 498-502.
5. Verreault, A., et al. 1998. Nucleosomal DNA regulates the core-histone-binding subunit of the human Hat1 acetyltransferase. Curr. Biol. 8: 96-108.

CHROMOSOMAL LOCATION

Genetic locus: HDAC8 (human) mapping to Xq13.1.

SOURCE

HDAC8 (B-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-28 at the N-terminus of HDAC8 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-365620 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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

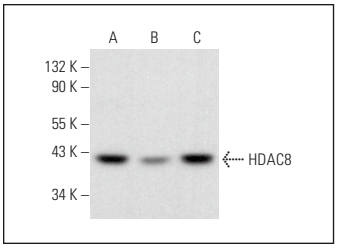
HDAC8 (B-4) is recommended for detection of HDAC8 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (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 HDAC8 siRNA (h): sc-35548, HDAC8 shRNA Plasmid (h): sc-35548-SH and HDAC8 shRNA (h) Lentiviral Particles: sc-35548-V.

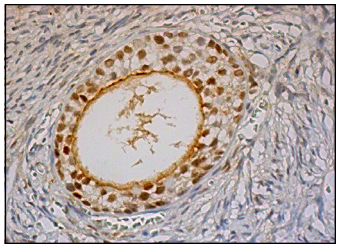
Molecular Weight of HDAC8: 44 kDa.

Positive Controls: SUP-T1 whole cell lysate: sc-364796, AN3 CA cell lysate: sc-24662 or NTERA-2 cl.D1 whole cell lysate: sc-364181.

DATA



HDAC8 (B-4): sc-365620. Western blot analysis of HDAC8 expression in SUP-T1 (**A**), NTERA-2 cl.D1 (**B**) and AN3 CA (**C**) whole cell lysates.



HDAC8 (B-4): sc-365620. Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing nuclear staining of follicle cells.

SELECT PRODUCT CITATIONS

1. Sferra, R., et al. 2017. The possible prognostic role of histone deacetylase and transforming growth factor β/Smad signaling in high grade gliomas treated by radio-chemotherapy: a preliminary immunohistochemical study. Eur. J. Histochem. 61: 2732.
2. Li, L., et al. 2018. Recombinant truncated TGF-β receptor II attenuates carbon tetrachloride-induced epithelial-mesenchymal transition and liver fibrosis in rats. Mol. Med. Rep. 17: 315-321.
3. Zhu, Y.J., et al. 2019. Decreased expression of HDAC8 indicates poor prognosis in patients with intrahepatic cholangiocarcinoma. HBPD INT 18: 464-470.
4. Yao, Y., et al. 2020. Downregulation of HDAC8 expression decreases CD163 levels and promotes the apoptosis of macrophages by activating the ERK signaling pathway in recurrent spontaneous miscarriage. Mol. Hum. Reprod. 26: 521-531.