SANTA CRUZ BIOTECHNOLOGY, INC.

HDAC8 (E-5): sc-17778

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.

CHROMOSOMAL LOCATION

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

SOURCE

HDAC8 (E-5) is a mouse monoclonal antibody raised against amino acids 1-145 of HDAC8 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.

HDAC8 (E-5) is available conjugated to agarose (sc-17778 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-17778 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-17778 PE), fluorescein (sc-17778 FITC), Alexa Fluor® 488 (sc-17778 AF488), Alexa Fluor® 546 (sc-17778 AF546), Alexa Fluor® 594 (sc-17778 AF594) or Alexa Fluor® 647 (sc-17778 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-17778 AF680) or Alexa Fluor® 790 (sc-17778 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

HDAC8 (E-5) is recommended for detection of HDAC8 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 HDAC8 siRNA (h): sc-35548, HDAC8 shRNA Plasmid (h): sc-35548-SH and HDAC8 shRNA (h) Lentiviral Particles: sc-35548-V.

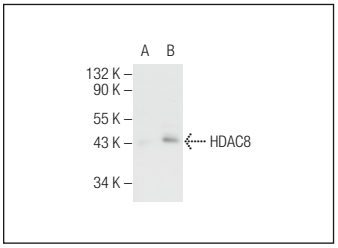
Molecular Weight of HDAC8: 44 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233, TF-1 cell lysate: sc-2412 or HDAC8 (h2): 293T Lysate: sc-177327.

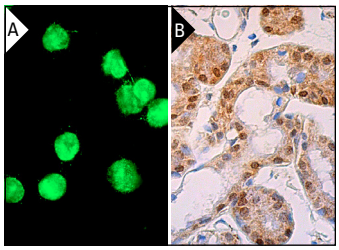
STORAGE

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

DATA



HDAC8 (E-5): sc-17778. Western blot analysis of HDAC8 expression in non-transfected: sc-117752 (**A**) and human HDAC8 transfected: sc-177327 (**B**) 293T whole cell lysates.



HDAC8 (E-5): sc-17778. Immunofluorescence staining of methanol-fixed MOLT-4 cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human salivary gland tissue showing nuclear and cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Hoshino, M., et al. 2003. Histone deacetylase activity is retained in primary neurons expressing mutant huntingtin protein. J. Neurochem. 87: 257-267.
2. Wilson, B.J., et al. 2010. An acetylation switch modulates the transcriptional activity of estrogen-related receptor α. Mol. Endocrinol. 24: 1349-1358.
3. Mu, S., et al. 2011. Epigenetic modulation of the renal β-adrenergic-WNK4 pathway in salt-sensitive hypertension. Nat. Med. 17: 573-580.
4. Lin, Y.Y., et al. 2012. Functional dissection of lysine deacetylases reveals that HDAC1 and p300 regulate AMPK. Nature 482: 251-255.
5. Kadiyala, V., et al. 2013. Class I lysine deacetylases facilitate glucocorticoid-induced transcription. J. Biol. Chem. 288: 28900-28912.
6. Huang, Y., et al. 2014. HDAC1 and Klf4 interplay critically regulates human myeloid leukemia cell proliferation. Cell Death Dis. 5: e1491.
7. Qi, J., et al. 2015. HDAC8 inhibition specifically targets Inv(16) acute myeloid leukemic stem cells by restoring p53 acetylation. Cell Stem Cell 17: 597-610.
8. Liu, J., et al. 2016. Both HDAC5 and HDAC6 are required for the proliferation and metastasis of melanoma cells. J. Transl. Med. 14: 7.
9. Jänsch, N., et al. 2019. The enzyme activity of histone deacetylase 8 is modulated by a redox-switch. Redox Biol. 20: 60-67.
10. 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.