SANTA CRUZ BIOTECHNOLOGY, INC.

HDAC1 (C-19): sc-6298

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 (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.

CHROMOSOMAL LOCATION

Genetic locus: HDAC1 (human) mapping to 1p35.1; Hdac1 (mouse) mapping to 4 D2.2.

SOURCE

HDAC1 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of HDAC1 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.

Blocking peptide available for competition studies, sc-6298 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as agarose conjugate for immunoprecipitation, sc-6298 AC, 500 µg/0.25 ml agarose in 1 ml; as TransCruz reagent for ChIP application, sc-6298 X, 200 µg/0.1 ml; as HRP conjugate for Western blotting, sc-6298 HRP, 200 µg/ 1 ml; as fluorescein (sc-6298 FITC) or rhodamine (sc-6298 TRITC) conjugates for use in immunofluorescence, 200 µg/1 ml; and as Alexa Fluor® 405 (sc-6298 AF405), Alexa Fluor® 488 (sc-6298 AF488) and Alexa Fluor® 647 (sc-6298 AF647) conjugates for immunofluorescence; 100 µg/2 ml.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

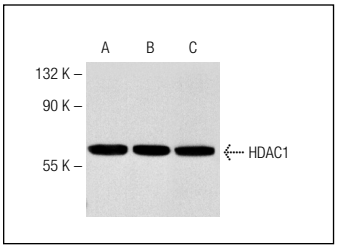
HDAC1 (C-19) is recommended for detection of HDAC1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 HDAC1 siRNA (h): sc-29343, HDAC1 siRNA (m): sc-29344, HDAC1 shRNA Plasmid (h): sc-29343-SH, HDAC1 shRNA Plasmid (m): sc-29344-SH, HDAC1 shRNA (h) Lentiviral Particles: sc-29343-V and HDAC1 shRNA (m) Lentiviral Particles: sc-29344-V.

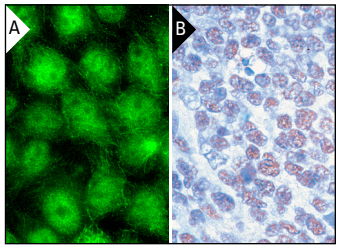
STORAGE

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

DATA



HDAC1 (C-19): sc-6298. Western blot analysis of HDAC1 expression in K-562 (**A**), Jurkat (**B**) and NIH/3T3 (**C**) nuclear extracts.



HDAC1 (C-19): sc-6298. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded normal human lymph node showing nuclear staining (**B**).

SELECT PRODUCT CITATIONS

1. Khan, M., et al. 2001. PML-RARα alleviates the transcriptional repression mediated by tumor suppressor Rb. J. Biol. Chem. 276: 43491-43494.
2. Krämer, O.H., et al. 2010. Phosphorylation-acetylation switch in the regulation of STAT1 signaling. Mol. Cell. Endocrinol. 315: 40-48.
3. Chen, M.W., et al. 2010. H3K9 histone methyltransferase G9a promotes lungcancer invasion and metastasis by silencing the cell adhesion molecule Ep-CAM. Cancer Res. 70: 7830-7840.
4. Venteclef, N., et al. 2010. GPS2-dependent corepressor/SUMO pathways govern anti-inflammatory actions of LRH-1 and LXRβ in the hepatic acute phase response. Genes Dev. 24: 381-395.
5. Suzuki, A., et al. 2010. Down-regulation of PROS1 gene expression by 17β-estradiol via estrogen receptor α (ERα)-Sp1 interaction recruiting receptor-interacting protein 140 and the corepressor-HDAC3 complex. J. Biol. Chem. 285: 13444-13453.
6. Kim, H.M., et al. 2011. CG0006, a novel histone deacetylase inhibitor, induces breast cancer cell death via histone-acetylation and chaperone-disrupting pathways independent of ER status. Breast Cancer Res. Treat. 130: 365-375.
7. Manikandan, P., et al. 2011. Eugenol inhibits cell proliferation via NFκB suppression in a rat model of gastric carcinogenesis induced by MNNG. Invest. New Drugs 29: 110-117.
8. Teng, C.F., et al. 2011. Novel feedback inhibition of surface antigen synthesis by mammalian target of rapamycin (mTOR) signal and its implication for hepatitis B virus tumorigenesis and therapy. Hepatology 54: 1199-1207.

RESEARCH USE

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