SANTA CRUZ BIOTECHNOLOGY, INC.

HDAC2 (C-19): sc-6296

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 histones 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: HDAC2 (human) mapping to 6q21; Hdac2 (mouse) mapping to 10 B1.

SOURCE

HDAC2 (C-19) is available as either goat (sc-6296) or rabbit (sc-6296-R) polyclonal affinity purified antibody raised against a peptide mapping at the C-terminus of HDAC2 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-6296 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for ChIP application, sc-6296 X, 200 µg/0.1 ml.

APPLICATIONS

HDAC2 (C-19) is recommended for detection of HDAC2 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HDAC2 (C-19) is also recommended for detection of HDAC2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for HDAC2 siRNA (h): sc-29345, HDAC2 siRNA (m): sc-29346, HDAC2 shRNA Plasmid (h): sc-29345-SH, HDAC2 shRNA Plasmid (m): sc-29346-SH, HDAC2 shRNA (h) Lentiviral Particles: sc-29345-V and HDAC2 shRNA (m) Lentiviral Particles: sc-29346-V.

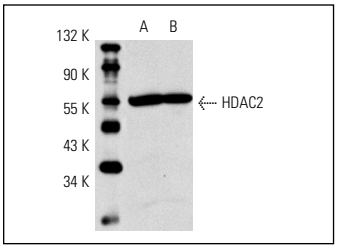
HDAC2 (C-19) X TransCruz antibody is recommended for ChIP assays.

Molecular Weight of HDAC2: 59 kDa.

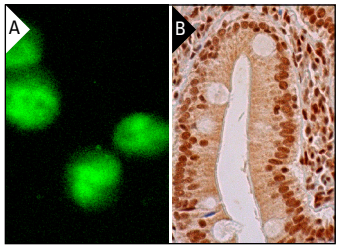
STORAGE

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

DATA



HDAC2 (C-19): sc-6296. Western blot analysis of HDAC2 expression in K-562 (**A**) and phorbol-induced Jurkat (**B**) nuclear extracts.



HDAC2 (C-19): sc-6296. Immunofluorescence staining of methanol-fixed K-562 cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing nuclear and cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Lutterbach, B., et al. 1998. ETO, a target of t(8;21) in acute leukemia, interacts with the N-CoR and mSin3 corepressors. Mol. Cell. Biol. 18: 7176-7184.
2. Aarenstrup, L., et al. 2008. HDAC activity is required for p65/RelA-dependent repression of PPARδ-mediated transactivation in human keratinocytes. J. Invest. Dermatol. 128: 1095-1106.
3. Toropainen, S., et al. 2010. The down-regulation of the human MYC gene by the nuclear hormone 1α,25-dihydroxyvitamin D3 is associated with cycling of corepressors and histone deacetylases. J. Mol. Biol. 400: 284-294.
4. Gordon, J.A., et al. 2010. Pbx1 represses osteoblastogenesis by blocking Hoxa10-mediated recruitment of chromatin remodeling factors. Mol. Cell. Biol. 30: 3531-3541.
5. Matilainen, J.M., et al. 2010. The number of vitamin D receptor binding sites defines the different vitamin D responsiveness of the CYP24 gene in malignant and normal mammary cells. J. Biol. Chem. 285: 24174-24183.
6. Gordon, J.A., et al. 2011. Epigenetic regulation of early osteogenesis and mineralized tissue formation by a HOXA10-PBX1-associated complex. Cells Tissues Organs 194: 146-150.
7. Thakur, V.S., et al. 2012. Green tea polyphenols increase p53 transcriptional activity and acetylation by suppressing class I histone deacetylases. Int. J. Oncol. 41: 353-361.
8. Gupta, K., et al. 2012. Green tea polyphenols induce p53-dependent and p53-independent apoptosis in prostate cancer cells through two distinct mechanisms. PLoS ONE 7: e52572.

RESEARCH USE

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