

# HDAC1 (C-19): sc-6298



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.

## 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.

Available as TransCruz reagent for ChIP application, sc-6298 X, 200 µg/0.1 ml.

Available as HRP conjugate for Western blotting, sc-6298 HRP, 200 µg/1 ml.

Available as fluorescein (sc-6298 FITC) or rhodamine (sc-6298 TRITC) conjugates for use in immunofluorescence, 200 µg/1 ml.

Available as Alexa Fluor® 405 (sc-6298 AF405), Alexa Fluor® 488 (sc-6298 AF488) or 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).

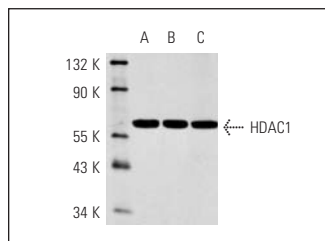
Suitable for use as control antibody for HDAC1 siRNA (h): sc-29343, HDAC1 siRNA (m): sc-29344, and HDAC1 siRNA (h2): sc-44208; and as shRNA Plasmid control antibody for HDAC1 shRNA Plasmid (h): sc-29343-SH, HDAC1 shRNA Plasmid (m): sc-29344-SH, and HDAC1 shRNA Plasmid (h2): sc-44208-SH.

HDAC1 (C-19) X TransCruz antibody is recommended for ChIP assays.

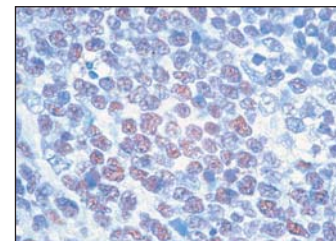
## STORAGE

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

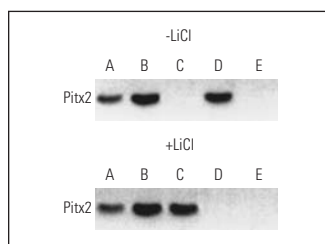
## DATA



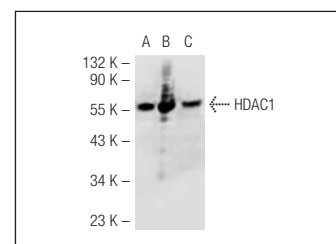
HDAC1 (C-19): sc-6298. Western blot analysis of HDAC1 expression in K-562 (A), Jurkat (B) and NIH/3T3 (C) nuclear extracts.



HDAC1 (C-19): sc-6298. Immunoperoxidase staining of formalin-fixed, paraffin-embedded normal human lymph node showing nuclear localization.



ChIP analysis of transcription regulatory proteins associated with the Pitx2 promoter in aT3-1 cells in response to lithium. Antibodies tested include LEF-1 (C-19): sc-8592 and LEF-1 (N-17): sc-8591 (B), β-catenin (H-102): sc-7199, β-catenin (C-18): sc-1496 and β-catenin (E-5): sc-7963 (C), HDAC1 (H-11): sc-7872, HDAC1 (C-19): sc-6298 and HDAC1 (H-11): sc-8410 (D), HDAC2 (C-8): sc-9959, HDAC2 (H-54): sc-7899 and HDAC2 (C-19): sc-6296 (E). Input control (A). Data kindly provided by M.G. Rosenfeld and reproduced with permission from Kiousi *et al.*, Cell 2002, 111: 673-685.



HDAC1 (C-19): sc-6298. Western blot analysis of HDAC1 expression in non-transfected: sc-117752 (A) and mouse HDAC1 transfected: sc-125435 (B) 293T whole cell lysates and HeLa nuclear extract (C).

## SELECT PRODUCT CITATIONS

- Khan, M., et al. 2001. PML-RAR $\alpha$  alleviates the transcriptional repression mediated by tumor suppressor Rb. *J. Biol. Chem.* 276: 43491-43494.
- Lai, A., et al. 2001. RBP1 recruits the mSIN3-histone deacetylase complex to the pocket of retinoblastoma tumor suppressor family proteins found in limited discrete regions of the nucleus at growth arrest. *Mol. Cell. Biol.* 21: 2918-2932.
- Baek, S., et al. 2002. Exchange of N-CoR corepressor and Tip60 coactivator complexes links gene expression by NF $\kappa$ B and  $\beta$ -Amyloid precursor protein. *Cell* 110: 55-67.
- Zhu, P., 2004. Induction of HDAC2 expression upon loss of APC in colorectal tumorigenesis. *Cancer Cell* 5: 455-463.

## RESEARCH USE

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