SANTA CRUZ BIOTECHNOLOGY, INC.

HDAC5 (H-74): sc-11419

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 HDAC1 (also designated HD1), HDAC2 (also designated RPD3) and HDAC3-6, have been identified as histone deacetylases.

CHROMOSOMAL LOCATION

Genetic locus: HDAC5 (human) mapping to 17q21.31; Hdac5 (mouse) mapping to 11 D.

SOURCE

HDAC5 (H-74) is a rabbit polyclonal antibody raised against amino acids 371-443 of HDAC5 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.

APPLICATIONS

HDAC5 (H-74) is recommended for detection of HDAC5 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HDAC5 (H-74) is also recommended for detection of HDAC5 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for HDAC5 siRNA (h): sc-35542, HDAC5 siRNA (m): sc-35543, HDAC5 shRNA Plasmid (h): sc-35542-SH, HDAC5 shRNA Plasmid (m): sc-35543-SH, HDAC5 shRNA (h) Lentiviral Particles: sc-35542-V and HDAC5 shRNA (m) Lentiviral Particles: sc-35543-V.

Molecular Weight of HDAC5: 140-150 kDa.

Positive Controls: KNRK nuclear extract: sc-2141, IMR-32 cell lysate: sc-2409 or Jurkat nuclear extract: sc-2132.

RESEARCH USE

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

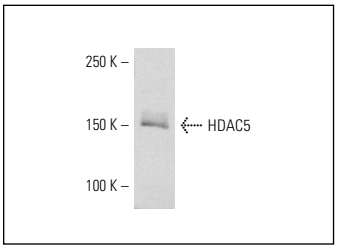
PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

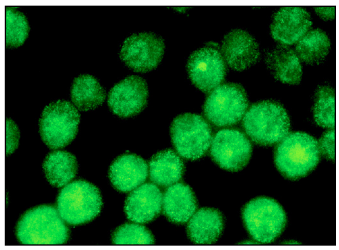
STORAGE

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

DATA



HDAC5 (H-74): sc-11419. Western blot analysis of HDAC5 expression in Jurkat nuclear extract.



HDAC5 (H-74): sc-11419. Immunofluorescence staining of methanol-fixed KNRK cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Baek, S., et al. 2002. Exchange of N-CoR corepressor and tip60 coactivator complexes links gene expression by NFκB and β-amyloid precursor protein. Cell 110: 55-67.
2. Aguilera, C., et al. 2004. Recruitment of IκBα to the hes1 promoter is associated with transcriptional repression. Proc. Natl. Acad. Sci. USA 101: 16537-16542.
3. Li, X., et al. 2004. Phosphorylation of the histone deacetylase 7 modulates its stability and association with 14-3-3 proteins. J. Biol. Chem. 279: 34201-34208.
4. Ishiko, E. 2005. Notch signals inhibit the development of erythroid/megakaryocytic cells by suppressing GATA-1 activity through the induction of HES1. J. Biol. Chem. 280: 4929-4939.
5. Shen, S., et al. 2005. Histone modifications affect timing of oligodendrocyte progenitor differentiation in the developing rat brain. J. Cell Biol. 169: 577-589.
6. Kim, J.H., et al. 2005. Transcriptional regulation of a metastasis suppressor gene by Tip60 and β-catenin complexes. Nature 434: 921-926.
7. Chen, G.Y., et al. 2006. Interaction of GATA-3/T-bet transcription factors regulates expression of sialyl Lewis X homing receptors on Th1/Th2 lymphocytes. Proc. Natl. Acad. Sci. USA 103: 16894-16899.
8. Gutti, R., et al. 2008. Gonadotropin-regulated testicular helicase (DDX25), an essential regulator of spermatogenesis, prevents testicular germ cell apoptosis. J. Biol. Chem. 283: 17055-17064.
9. Chandrasekaran, S., et al. 2009. Histone deacetylases facilitate sodium/calcium exchanger up-regulation in adult cardiomyocytes. FASEB J. 23: 3851-3864.
10. Quinti, L., et al. 2010. Evaluation of histone deacetylases as drug targets in Huntington's disease models. Study of HDACs in brain tissues from R6/2 and CAG140 knock-in HD mouse models and human patients and in a neuronal HD cell model. PLoS Curr. 2: pii: RRN1172.