SANTA CRUZ BIOTECHNOLOGY, INC.

HDAC3 (B-12): sc-17795

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 and the TFIID subunit TAF II p250. Mammalian HDAC1 (also designated HD1), HDAC2 (also designated RPD3) and HDAC3, all of which are related to the yeast transcriptional factor Rpd3p, have been identified as histone deacetylases.

REFERENCES

1. Lee, D.Y., et al. 1993. A positive role for histone acetylation in transcription factor access to nucleosomal DNA. Cell 72: 73-82.
2. Braunstein, M., et al. 1993. Transcriptional silencing in yeast is associated with reduced nucleosome acetylation. Genes Dev. 7: 592-604.

CHROMOSOMAL LOCATION

Genetic locus: HDAC3 (human) mapping to 5q31.3; Hdac3 (mouse) mapping to 18 B3.

SOURCE

HDAC3 (B-12) is a mouse monoclonal antibody raised against amino acids 330-428 mapping at the C-terminus of HDAC3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HDAC3 (B-12) is available conjugated to agarose (sc-17795 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-17795 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-17795 PE), fluorescein (sc-17795 FITC), Alexa Fluor® 488 (sc-17795 AF488), Alexa Fluor® 546 (sc-17795 AF546), Alexa Fluor® 594 (sc-17795 AF594) or Alexa Fluor® 647 (sc-17795 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-17795 AF680) or Alexa Fluor® 790 (sc-17795 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

HDAC3 (B-12) is recommended for detection of HDAC3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:500), 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).

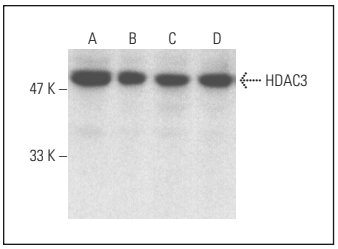
HDAC3 (B-12) is also recommended for detection of HDAC3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for HDAC3 siRNA (h): sc-35538, HDAC3 siRNA (m): sc-35539, HDAC3 siRNA (r): sc-270161, HDAC3 shRNA Plasmid (h): sc-35538-SH, HDAC3 shRNA Plasmid (m): sc-35539-SH, HDAC3 shRNA Plasmid (r): sc-270161-SH, HDAC3 shRNA (h) Lentiviral Particles: sc-35538-V, HDAC3 shRNA (m) Lentiviral Particles: sc-35539-V and HDAC3 shRNA (r) Lentiviral Particles: sc-270161-V.

Molecular Weight of HDAC3: 49 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, K-562 nuclear extract: sc-2130 or A-431 nuclear extract: sc-2122.

DATA



HDAC3 (B-12): sc-17795. Western blot analysis of HDAC3 expression in Jurkat (**A**), K-562 (**B**), A-431 (**C**) and NIH/3T3 (**D**) nuclear extracts.

SELECT PRODUCT CITATIONS

1. Mahlknecht, U., et al. 2004. Histone deacetylase 3, a class I histone deacetylase, suppresses MAPK11-mediated activating transcription factor-2 activation and represses TNF gene expression. J. Immunol. 173: 3979-3990.
2. Manea, S.A., et al. 2019. Pharmacological inhibition of histone deacetylase reduces NADPH oxidase expression, oxidative stress and the progression of atherosclerotic lesions in hypercholesterolemic apolipoprotein E-deficient mice; potential implications for human atherosclerosis. Redox Biol. 28: 101338.
3. Ferrante, F., et al. 2020. HDAC3 functions as a positive regulator in Notch signal transduction. Nucleic Acids Res. 48: 3496-3512.

RESEARCH USE

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