

HDAC9 (N-20): sc-32094

BACKGROUND

In the intact cell, DNA closely associates with histones and other nuclear proteins to form chromatin. The remodeling of chromatin is a critical component of transcriptional regulation and the acetylation of nucleosomal histones is a major source of this remodeling. 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. Several mammalian proteins function as nuclear histone acetylases, including GCN5, PCAF (p300/CBP-associated factor), p300/CBP, HAT1 and the TFIID subunit TAF II p250. Conversely, the deacetylation of histones is associated with transcriptional silencing. The histone deacetylases (HDAC) include HDAC1-9. HDAC9 and HDAC9a are two alternatively spliced isoforms of HDAC9. HDAC9a is 132 amino acids shorter than HDAC9, but both isoforms contain the HDAC catalytic domain, remain capable of deacetylase activity and repress myocyte enhancer-binding factor 2-mediated transcription. HDAC9 and HDAC9a are expressed in brain, skeletal muscle, kidney, placenta and pancreas.

REFERENCES

- Braunstein, M., et al. 1993. Transcriptional silencing in yeast is associated with reduced nucleosome acetylation. *Genes Dev.* 7: 592-604.
- Lee, D.Y., et al. 1993. A positive role for histone acetylation in transcription factor access to nucleosomal DNA. *Cell* 72: 73-82.
- Bauer, W.R., et al. 1994. Nucleosome structural changes due to acetylation. *J. Mol. Biol.* 236: 685-690.
- Verreault, A., et al. 1998. Nucleosomal DNA regulates the core-histone-binding subunit of the human Hat1 acetyltransferase. *Curr. Biol.* 8: 96-108.
- Uteley, R.T., et al. 1998. Transcriptional activators direct histone acetyltransferase complexes to nucleosomes. *Nature* 394: 498-502.
- Zhou, X., et al. 2001. Cloning and characterization of a histone deacetylase, HDAC9. *Proc. Natl. Acad. Sci. USA* 98: 10572-10577.

CHROMOSOMAL LOCATION

Genetic locus: HDAC9 (human) mapping to 7p21.1; Hdac9 (mouse) mapping to 12 A3.

SOURCE

HDAC9 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of HDAC9 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-32094 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

HDAC9 (N-20) is recommended for detection of HDAC9 isoforms 1-4 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).

HDAC9 (N-20) is also recommended for detection of HDAC9 isoforms 1-4 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for HDAC9 siRNA (h): sc-35550, HDAC9 siRNA (m): sc-35551, HDAC9 shRNA Plasmid (h): sc-35550-SH, HDAC9 shRNA Plasmid (m): sc-35551-SH, HDAC9 shRNA (h) Lentiviral Particles: sc-35550-V and HDAC9 shRNA (m) Lentiviral Particles: sc-35551-V.

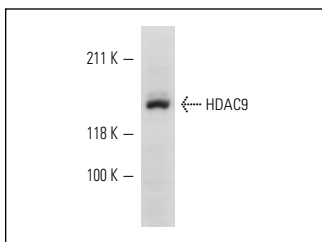
Molecular Weight of HDAC9: 160 kDa.

Positive Controls: Ramos cell lysate: sc-2216.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



HDAC9 (N-20): sc-32094. Western blot analysis of HDAC9 expression in Ramos whole cell lysate.

RESEARCH USE

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



Try **HDAC9 (B-1): sc-398003**, our highly recommended monoclonal alternative to HDAC9 (N-20).