

HDAC1 (HDAC1-21): sc-56683

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.

REFERENCES

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- Bartl, S., et al. 1997. Identification of mouse histone deacetylase 1 as a growth factor-inducible gene. *Mol. Cell Biol.* 17: 5033-5043.

CHROMOSOMAL LOCATION

Genetic locus: HDAC1 (human) mapping to 1p34; Hdac1 (mouse) mapping to 4 D2.2.

SOURCE

HDAC1 (HDAC1-21) is a mouse monoclonal antibody raised against amino acids 466-482 of HDAC1 of human origin.

PRODUCT

Each vial contains 100 µg IgG₃ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

HDAC1 (HDAC1-21) 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) and immunoprecipitation [1–2 µg per 100–500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for HDAC1 siRNA (h): sc-29343, HDAC1 siRNA (m): sc-29344, HDAC1 siRNA (r): sc-270070, HDAC1 shRNA Plasmid (h): sc-29343-SH, HDAC1 shRNA Plasmid (m): sc-29344-SH, HDAC shRNA Plasmid (r): sc-270070-SHHDAC1 shRNA (h) Lentiviral Particles: sc-29343-V, HDAC1 shRNA (m) Lentiviral Particles: sc-29344-V and HDAC1 shRNA (r) Lentiviral Particles: sc-270070-V.

Molecular Weight of HDAC1: 55 kDa.

Positive Controls: NIH/3T3 nuclear extract: sc-2138, K-562 nuclear extract: sc-2130 or Jurkat nuclear extract: sc-2132.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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).

STORAGE

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

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.