

# HDAC3 (40): sc-136290

## 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

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 (40) is a mouse monoclonal antibody raised against amino acids 309-425 of HDAC3 of human origin.

## PRODUCT

Each vial contains 50 µg IgG<sub>1</sub> in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

HDAC3 (40) is recommended for detection of HDAC3 of mouse, rat, human and canine 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

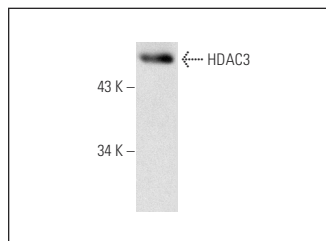
Molecular Weight of HDAC3: 49 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, Jurkat nuclear extract: sc-2132 or K-562 nuclear extract: sc-2130.

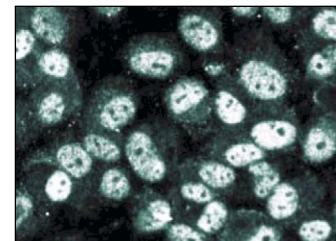
## STORAGE

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

## DATA



HDAC3 (40): sc-136290. Western blot analysis of HDAC3 expression in HeLa nuclear extract.



HDAC3 (40): sc-136290. Immunofluorescence staining of human endothelial cells showing nuclear localization.

## SELECT PRODUCT CITATIONS

1. Martin, D., et al. 2014. Unspliced X-box-binding protein 1 (XBP1) protects endothelial cells from oxidative stress through interaction with histone deacetylase 3. *J. Biol. Chem.* 289: 30625-30634.
2. Blakeslee, W.W., et al. 2014. Class I HDAC inhibition stimulates cardiac protein SUMOylation through a post-translational mechanism. *Cell. Signal.* 26: 2912-2920.
3. Jain, N. and Vogel, V. 2018. Spatial confinement downsizes the inflammatory response of macrophages. *Nat. Mater.* 17: 1134-1144.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.



See **HDAC3 (A-3): sc-376957** for HDAC3 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor<sup>®</sup> 488, 546, 594, 647, 680 and 790.