

HDAC2 (B-2): sc-55541

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.

CHROMOSOMAL LOCATION

Genetic locus: HDAC2 (human) mapping to 6q21; Hdac2 (mouse) mapping to 10 B1.

SOURCE

HDAC2 (B-2) is a mouse monoclonal antibody raised against amino acids 435-488 of HDAC2 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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.

APPLICATIONS

HDAC2 (B-2) is recommended for detection of HDAC2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for HDAC2 siRNA (h): sc-29345, HDAC2 siRNA (m): sc-29346, HDAC2 siRNA (r): sc-270150, HDAC2 shRNA Plasmid (h): sc-29345-SH, HDAC2 shRNA Plasmid (m): sc-29346-SH, HDAC2 shRNA Plasmid (r): sc-270150-SH, HDAC2 shRNA (h) Lentiviral Particles: sc-29345-V, HDAC2 shRNA (m) Lentiviral Particles: sc-29346-V and HDAC2 shRNA (r) Lentiviral Particles: sc-270150-V.

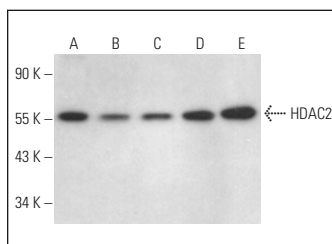
Molecular Weight of HDAC2: 59 kDa.

Positive Controls: AN3 CA cell lysate: sc-24662, HEL 92.1.7 cell lysate: sc-2270 or BYDP whole cell lysate: sc-364368.

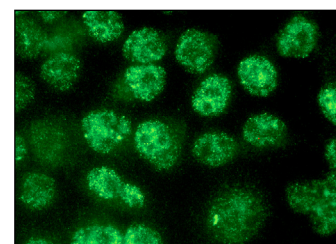
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



HDAC2 (B-2): sc-55541. Western blot analysis of HDAC2 expression in TK-1 (A), J774.A1 (B), BYDP (C), HEL 92.1.7 (D) and AN3 CA (E) whole cell lysates.



HDAC2 (B-2): sc-55541. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear staining.

SELECT PRODUCT CITATIONS

- Elkington, A.R. 1988. Patrick trevor-roper: a born teacher. *Eye* 2: 593-599.
- Kim, J.H., et al. 2005. Transcriptional regulation of a metastasis suppressor gene by Tip60 and β-catenin complexes. *Nature* 434: 921-926.
- Sanchez, A.M., et al. 2012. AMPK promotes skeletal muscle autophagy through activation of forkhead FoxO3a and interaction with Ulk1. *J. Cell. Biochem.* 113: 695-710.
- Dhar, S., et al. 2015. Resveratrol regulates PTEN/Akt pathway through inhibition of MTA1/HDAC unit of the NuRD complex in prostate cancer. *Biochim. Biophys. Acta* 1853: 265-275.
- Chou, T.F., et al. 2016. Tumour suppressor death-associated protein kinase targets cytoplasmic HIF-1α for Th17 suppression. *Nat. Commun.* 7: 11904.
- Mattioli, E., et al. 2018. Altered modulation of lamin A/C-HDAC2 interaction and p21 expression during oxidative stress response in HGPS. *Aging Cell* 17: e12824.
- Mattioli, E., et al. 2019. Statins and histone deacetylase inhibitors affect Lamin A/C-histone deacetylase 2 interaction in human cells. *Front. Cell Dev. Biol.* 7: 6.

CONJUGATES

See **HDAC2 (C-8): sc-9959** for HDAC2 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.