SANTA CRUZ BIOTECHNOLOGY, INC.

# HDAC5 (C-11): sc-133225

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, HAT1 and the TFIID subunit TAF II p250. Mammalian HDAC1 (also designated HD1), HDAC2 (also designated RPD3) and HDAC3-6, have been identified as histone deacetylases.

## CHROMOSOMAL LOCATION

Genetic locus: HDAC5 (human) mapping to 17q21.31; Hdac5 (mouse) mapping to 11 D.

## SOURCE

HDAC5 (C-11) is a mouse monoclonal antibody raised against amino acids 371-443 of HDAC5 of human origin.

## PRODUCT

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

HDAC5 (C-11) is available conjugated to agarose (sc-133225 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-133225 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133225 PE), fluorescein (sc-133225 FITC), Alexa Fluor® 488 (sc-133225 AF488), Alexa Fluor® 546 (sc-133225 AF546), Alexa Fluor® 594 (sc-133225 AF594) or Alexa Fluor® 647 (sc-133225 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133225 AF680) or Alexa Fluor® 790 (sc-133225 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

HDAC5 (C-11) is recommended for detection of HDAC5 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), immunohistochemistry (including paraffin-embedded sections) (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 HDAC5 siRNA (h): sc-35542, HDAC5 siRNA (m): sc-35543, HDAC5 shRNA Plasmid (h): sc-35542-SH, HDAC5 shRNA Plasmid (m): sc-35543-SH, HDAC5 shRNA (h) Lentiviral Particles: sc-35542-V and HDAC5 shRNA (m) Lentiviral Particles: sc-35543-V.

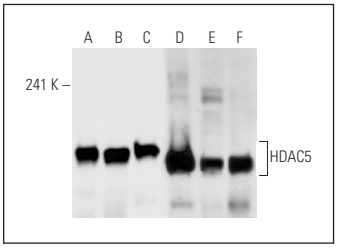
Molecular Weight of HDAC5: 140-150 kDa.

Positive Controls: NIH/3T3 nuclear extract: sc-2138, KNRK nuclear extract: sc-2141 or Jurkat nuclear extract: sc-2132.

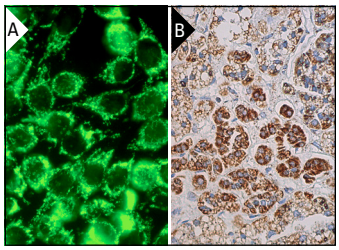
## STORAGE

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

## DATA




HDAC5 (C-11): sc-133225. Western blot analysis of HDAC5 expression in NIH/3T3 (**A**), KNRK (**B**), IMR-32 (**C**) and Jurkat (**D**) nuclear extracts and KNRK (**E**) and COLO 320DM (**F**) whole cell lysates.




HDAC5 (C-11): sc-133225. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells (**B**).

## SELECT PRODUCT CITATIONS


1. Rui, J., et al. 2012. Epigenetic silencing of CD8 genes by ThPOK-mediated deacetylation during CD4 T cell differentiation. J. Immunol. 189: 1380-1390.
2. Varga, A., et al. 2015. Correction: targeting vascular endothelial growth factor receptor 2 and protein kinase D1 related pathways by a multiple kinase inhibitor in angiogenesis and inflammation related processes *in vitro*. PloS ONE 10: e0144792.
3. Choi, S.Y., et al. 2016. Piceatannol attenuates renal fibrosis induced by unilateral ureteral obstruction via downregulation of histone deacetylase 4/5 or p38-MAPK signaling. PLoS ONE 11: e0167340.
4. Blixt, N.C., et al. 2017. Class II and IV HDACs function as inhibitors of osteoclast differentiation. PLoS ONE 12: e0185441.
5. Gu, P., et al. 2018. Histone deacetylase 5 (HDAC5) regulates neuropathic pain through SRY-related HMG-box 10 (SOX10)-dependent mechanism in mice. Pain 159: 526-539.
6. Federspiel, J.D., et al. 2019. Hdac4 interactions in Huntington's disease viewed through the prism of multiomics. Mol. Cell. Proteomics 18: S92-S113.
7. Sato, T., et al. 2020. A FAK/HDAC5 signaling axis controls osteocyte mechanotransduction. Nat. Commun. 11: 3282.
8. Kang, D.W., et al. 2021. Phospholipase D1 is upregulated by vorinostat and confers resistance to vorinostat in glioblastoma. J. Cell. Physiol. 236: 549-560.
9. Xu, Z., et al. 2021. METTL14-regulated PI3K/Akt signaling pathway via PTEN affects HDAC5-mediated epithelial-mesenchymal transition of renal tubular cells in diabetic kidney disease. Cell Death Dis. 12: 32.


## RESEARCH USE

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