SANTA CRUZ BIOTECHNOLOGY, INC.

HDAC3 (3G6): sc-81600

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 and the TFIID subunit TAF II p250. Mammalian HDAC1 (also designated HD1), HDAC2 (also designated RPD3) and HDAC3, all of which are related to the yeast transcriptional factor Rpd3p, have been identified as histone deacetylases.

CHROMOSOMAL LOCATION

Genetic locus: HDAC3 (human) mapping to 5q31.3; Hdac3 (mouse) mapping to 18 B3.

SOURCE

HDAC3 (3G6) is a mouse monoclonal antibody raised against amino acids 411-428 corresponding to the C-terminus of HDAC3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} 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

HDAC3 (3G6) is recommended for detection of HDAC3 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 immunohistochemistry (including paraffin-embedded sections) (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.

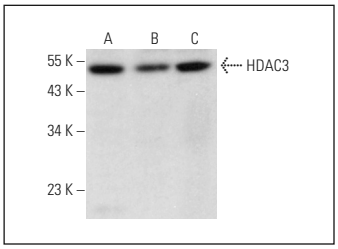
Molecular Weight of HDAC3: 49 kDa.

Positive Controls: AN3 CA cell lysate: sc-24662, C6 whole cell lysate: sc-364373 or KNRK nuclear extract: sc-2141.

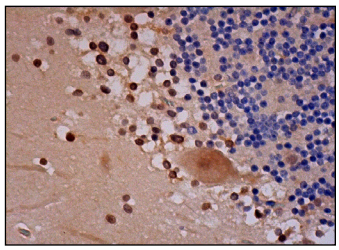
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



HDAC3 (3G6): sc-81600. Western blot analysis of HDAC3 expression in AN3 CA (**A**) and C6 (**B**) whole cell lysates and KNRK nuclear extract (**C**).



HDAC3 (3G6): sc-81600. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing nuclear and cytoplasmic staining of Purkinje cells and nuclear staining of cells in molecular layer.

SELECT PRODUCT CITATIONS

1. Li, X., et al. 2006. Endogenous inhibition of histone deacetylase 1 by tumor-suppressive maspin. Cancer Res. 66: 9323-9329.
2. Nebbioso, A., et al. 2009. Selective class II HDAC inhibitors impair myogenesis by modulating the stability and activity of HDAC-MEF2 complexes. EMBO Rep. 10: 776-782.
3. Sferra, R., et al. 2017. The possible prognostic role of histone deacetylase and transforming growth factor β/Smad signaling in high grade gliomas treated by radio-chemotherapy: a preliminary immunohistochemical study. Eur. J. Histochem. 61: 2732.
4. Li, L., et al. 2018. Recombinant truncated TGF-β receptor II attenuates carbon tetrachloride-induced epithelial-mesenchymal transition and liver fibrosis in rats. Mol. Med. Rep. 17: 315-321.
5. Yadav, A., et al. 2021. Sodium phenylbutyrate inhibits Schwann cell inflammation via HDAC and NFκB to promote axonal regeneration and remyelination. J. Neuroinflammation 18: 238.

CONJUGATES

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