SANTA CRUZ BIOTECHNOLOGY, INC.

HDAC4 (F-6): sc-365367

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, p300/CBP, PCAF (p300/CBPassociated factor), 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: HDAC4 (human) mapping to 2q37.3; Hdac4 (mouse) mapping to 1 D.

SOURCE

HDAC4 (F-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-23 at the N-terminus of HDAC4 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.

Blocking peptide available for competition studies, sc-365367 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

HDAC4 (F-6) is recommended for detection of HDAC4 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).

HDAC4 (F-6) is also recommended for detection of HDAC4 in additional species, including avian.

Suitable for use as control antibody for HDAC4 siRNA (h): sc-35540, HDAC4 siRNA (m): sc-35541, HDAC4 shRNA Plasmid (h): sc-35540-SH, HDAC4 shRNA Plasmid (m): sc-35541-SH, HDAC4 shRNA (h) Lentiviral Particles: sc-35540-V and HDAC4 shRNA (m) Lentiviral Particles: sc-35541-V.

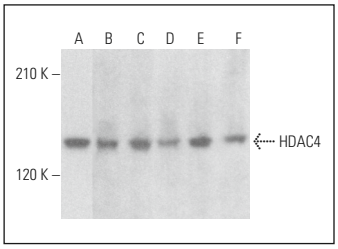
Molecular Weight of HDAC4: 140 kDa.

Positive Controls: NIH/3T3 nuclear extract: sc-2138, Jurkat nuclear extract: sc-2132 or MOLT-4 cell lysate: sc-2233.

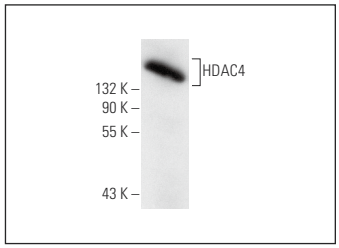
RECOMMENDED SUPPORT REAGENTS

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



HDAC4 (F-6): sc-365367. Western blot analysis of HDAC4 expression in THP-1 whole cell lysate (**A**) and HeLa (**B**), Jurkat (**C**), K-562 (**D**), NIH/3T3 (**E**) and KNRK (**F**) nuclear extracts.



HDAC4 (F-6): sc-365367. Western blot analysis of HDAC4 expression in MOLT-4 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Joshi, S., et al. 2011. 1,25-dihydroxyvitamin D_3 ameliorates Th17 autoimmunity via transcriptional modulation of interleukin-17A. Mol. Cell. Biol. 31: 3653-3669.
2. Gallicano, G.I., et al. 2022. Reversing cardiac hypertrophy at the source using a cardiac targeting peptide linked to miRNA106a: targeting genes that cause cardiac hypertrophy. Pharmaceuticals 15: 871.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CONJUGATES

See **HDAC4 (A-4): sc-46672** for HDAC4 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.