

HDAC4/5/7 (H-273): sc-11421

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/CBP associated 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.

SOURCE

HDAC4/5/7 (H-273) is a rabbit polyclonal antibody raised against amino acids 163-435 of HDAC7 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as TransCruz reagent for ChIP application, sc-11421 X, 200 µg/0.1 ml.

APPLICATIONS

HDAC4/5/7 (H-273) is recommended for detection of HDAC4, HDAC5 and HDAC7 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), 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).

HDAC4/5/7 (H-273) X TransCruz antibody is recommended for ChIP assays.

Molecular Weight of HDAC4: 140 kDa.

Molecular Weight of HDAC5: 140-150 kDa.

Molecular Weight of HDAC7: 105 kDa.

Positive Controls: NIH/3T3 whole cell lysate; sc-2210, K-562 nuclear extract: sc-2130 or SUP-T1 whole cell lysate: sc-364796.

STORAGE

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

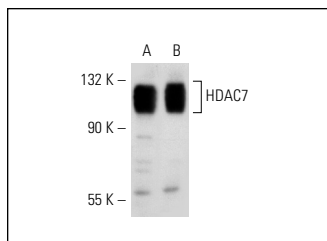
PROTOCOLS

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

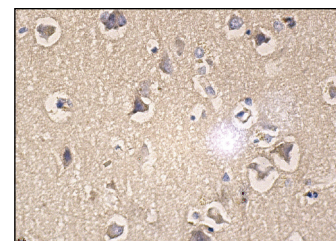
RESEARCH USE

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

DATA



HDAC4/5/7 (H-273): sc-11421. Western blot analysis of HDAC7 expression in K-562 nuclear extract (A) and SUP-T1 whole cell lysate (B).



HDAC4/5/7 (H-273): sc-11421. Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing cytoplasmic staining of neuronal and glial cells.

SELECT PRODUCT CITATIONS

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- Cooper, H.M., et al. 2008. The human SIRT3 protein deacetylase is exclusively mitochondrial. *Biochem. J.* 411: 279-285.
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- Higashiyama, R., et al. 2009. Correlation between MMP-13 and HDAC7 expression in human knee osteoarthritis. *Mod. Rheumatol.* 20: 11-17.
- Aude-Garcia, C., et al. 2010. Dual roles for MEF2A and MEF2D during human macrophage terminal differentiation and c-Jun expression. *Biochem. J.* 430: 237-244.
- Subramanian, C., et al. 2011. HDAC6 deacetylates Ku70 and regulates Ku70-Bax binding in neuroblastoma. *Neoplasia* 13: 726-734.
- Martin, M., et al. 2013. PP2A regulatory subunit $\beta\alpha$ controls endothelial contractility and vessel lumen integrity via regulation of HDAC7. *EMBO J.* 32: 2491-2503.
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- Barneda-Zahonero, B., et al. 2013. HDAC7 is a repressor of myeloid genes whose downregulation is required for transdifferentiation of pre-B cells into macrophages. *PLoS Genet.* 9: e1003503.