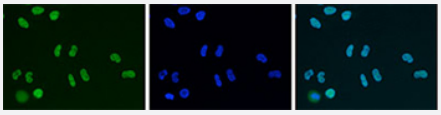
HDAC1 polyclonal antibody

Catalog # PAB31334 Size 50 ug

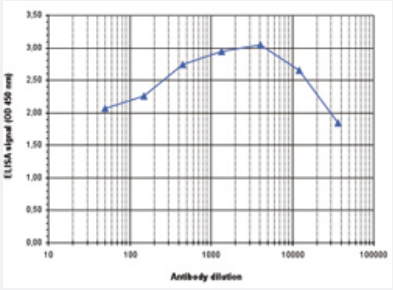
Applications

Immunofluorescence



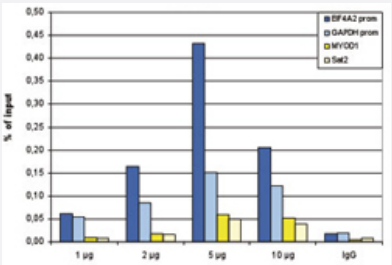
Immunofluorescent staining of Hela cell line with antibody followed by an anti-rabbit antibody conjugated to Alexa488 (left). The middle panel shows staining of the nuclei with DAPI. A merge of the two stainings (right).

Enzyme-linked Immunoabsorbent Assay



ELISA is a quantitative method used to determine the titer of the antibody using a serial dilution of antibody against HDAC1, crude serum and flow through. The plates were coated with the peptide used for immunization of the rabbit. By plotting the absorbance against the antibody dilution, the titer of the antibody was estimated to be 1:75000.

ChIP



ChIP was performed on sheared chromatin from 4,000,000 HeLa cells. An antibody titration consisting of 1, 2, 5 and 10 ug per ChIP experiment was analysed. IgG (2 ug/IP) was used as negative IP control. QPCR was performed with primers specific for the EIF4A2 and GAPDH promoters, used as positive controls, and for the MYOD1 gene and Sat2 satellite repeat, used as negative controls. The figure shows the recovery, expressed as a % of input (the relative amount of immunoprecipitated DNA compared to input DNA after qPCR analysis).

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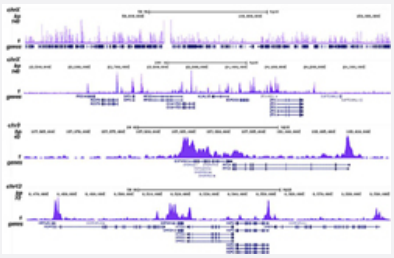
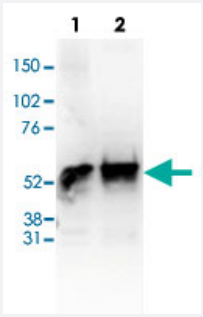


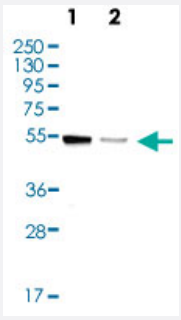
ChIP-Seq

ChIP was performed on sheared chromatin from 4,000,000 HeLa cells using antibody. The figure shows the peak distribution along the complete sequence and a 1 Mb region of the X-chromosome and in two regions surrounding the GAPDH and EIF4A2 positive control genes, respectively.



Western Blot (Cell lysate)

Western Blot (Cell lysate) analysis of (1) 25 ug whole cell extracts of Hela cells, (2) 25 ug nuclear extracts of Hela cells.



Western Blot (Transfected lysate)

Western Blot (Cell lysate) analysis of (1) 50 ug whole cell extracts of Hela cells untransfected control, (2) 50 ug whole cell extracts of Hela cells transfected with HDAC1 siRNA.

Specification

Product Description	Rabbit polyclonal antibody raised against synthetic peptide of HDAC1.
Immunogen	A synthetic peptide (conjugated with KLH) corresponding to C-terminus of human HDAC1.
Host	Rabbit
Reactivity	Human, Mouse
Form	Liquid
Purification	Affinity purification

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Recommend Usage	ELISA (1:4000) Western Blot (1:1000) ChIP (2 ug/ChIP) Immunofluorescence (1:500) The optimal working dilution should be determined by the end user.
Storage Buffer	In PBS (0.05% sodium azide, 0.05% proclin 300).
Storage Instruction	Store at -20°C. For long term storage store at -80°C. Aliquot to avoid repeated freezing and thawing.
Note	This product contains sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which shoul d be handled by trained staff only.

Applications

- ### Immunofluorescence

  Immunofluorescent staining of Hela cell line with antibody followed by an anti-rabbit antibody conjugated to Alexa488 (left). The middle panel shows staining of the nuclei with DAPI. A merge of the two stainings (right).

- ### Enzyme-linked Immunoabsorbent Assay

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- ### ChIP

  ChIP was performed on sheared chromatin from 4,000,000 HeLa cells. An antibody titration consisting of 1, 2, 5 and 10 ug per ChIP experiment was analysed. IgG (2 ug/IP) was used as negative IP control. QPCR was performed with primers specific for the EIF4A2 and GAPDH promoters, used as positive controls, and for the MYOD1 gene and Sat2 satellite repeat, used as negative controls. The figure shows the recovery, expressed as a % of input (the relative amount of immunoprecipitated DNA compared to input DNA after qPCR analysis).

- ### ChIP-Seq

  ChIP was performed on sheared chromatin from 4,000,000 HeLa cells using antibody. The figure shows the peak distribution along the complete sequence and a 1 Mb region of the X-chromosome and in two regions surrounding the GAPDH and EIF4A2 positive control genes, respectively.

- ### Western Blot (Cell lysate)

  Western Blot (Cell lysate) analysis of (1) 25 ug whole cell extracts of Hela cells, (2) 25 ug nuclear extracts of Hela cells.

- ### Western Blot (Transfected lysate)

  Western Blot (Cell lysate) analysis of (1) 50 ug whole cell extracts of Hela cells untransfected control, (2) 50 ug whole cell extracts of Hela cells transfected with HDAC1 siRNA.

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Gene Info — HDAC1

Entrez GeneID	3065
Protein Accession#	Q13547
Gene Name	HDAC1
Gene Alias	DKFZp686H12203, GON-10, HD1, RPD3, RPD3L1
Gene Description	histone deacetylase 1
Omim ID	601241
Gene Ontology	Hyperlink
Gene Summary	Histone acetylation and deacetylation, catalyzed by multisubunit complexes, play a key role in the regulation of eukaryotic gene expression. The protein encoded by this gene belongs to the histon e deacetylase/acuc/apha family and is a component of the histone deacetylase complex. It also in teracts with retinoblastoma tumor-suppressor protein and this complex is a key element in the con trol of cell proliferation and differentiation. Together with metastasis-associated protein-2, it deac etylates p53 and modulates its effect on cell growth and apoptosis. [provided by RefSeq
Other Designations	OTTHUMP00000008745|reduced potassium dependency, yeast homolog-like 1

Publication Reference

- Krüppel-like Transcription Factor KLF10 Suppresses TGFβ-Induced Epithelial-to-Mesenchymal Transition via a Negative Feedback Mechanism.

  Mishra VK, Subramaniam M, Kari V, Pitel KS, Baumgart SJ, Naylor RM, Nagarajan S, Wegwitz F, Ellenrieder V, Hawse JR, Johnsen SA.

  Cancer Research 2017 May; 77(9):2387.

  Application: ChIP-Seq, Human, A-549 cells

- HDAC1 negatively regulates Bdnf and Pvalb required for parvalbumin interneuron maturation in an experience-dependent manner.

  Koh DX, Sng JC.

  Journal of Neurochemistry 2016 Nov; 139(3):369.

  Application: IP, WB-Tr, Mouse, Mouse cortex

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- Genome-wide hydroxymethylcytosine pattern changes in response to oxidative stress.

  Delatte B, Jeschke J, Defrance M, Bachman M, Creppe C, Calonne E, Bizet M, Deplus R, Marroquí L, Libin M, Ravichandran M, Mascart F, Eizirik DL, Murrell A, Jurkowski TP, Fuks F.

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  Application: WB-Tr, Human, SY5Y cells

- SNAIL1 combines competitive displacement of ASCL2 and epigenetic mechanisms to rapidly silence the EPHB3 tumor suppressor in colorectal cancer.

  Ronsch K, Jagle S, Rose K, Seidl M, Baumgartner F, Freihen V, Yousaf A, Metzger E, Lassmann S, Schule R, Zeiser R, Michoel T, Hecht A.

  Molecular Oncology 2015 Feb; 9(2):335.

  Application: ChIP, Human, LS174T cells

- Citrullination of DNMT3A by PADI4 regulates its stability and controls DNA methylation.

  Deplus R, Denis H, Putmans P, Calonne E, Fourrez M, Yamamoto K, Suzuki A, Fuks F.

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  Application: WB-Tr, Human, U-2 OS cells

- Dimethyl fumarate regulates histone deacetylase expression in astrocytes.

  Kalinin S, Polak PE, Lin SX, Braun D, Guizzetti M, Zhang X, Rubinstein I, Feinstein DL.

  Journal of Neuroimmunology 2013 Oct; 263(1-2):13.

  Application: WB-Ce, Rat, Rat astrocytes

- Phosphorylation of p65(RelA) on Ser(547) by ATM represses NF-κB-dependent transcription of specific genes after genotoxic stress.

  Sabatel H, Di Valentin E, Gloire G, Dequiedt F, Piette J, Habraken Y.

  PLoS One 2012 Jun; 7(6):e38246.

  Application: WB-Tr, Human, HEK 293 cells

- The histone demethylase Kdm3a is essential to progression through differentiation.

  Herzog M, Josseaux E, Dedeurwaerder S, Calonne E, Volkmar M, Fuks F.

  Nucleic Acids Research 2012 Aug; 40(15):7219.

  Application: WB-Tr, Mouse, F9 cells

- HDAC1 regulates fear extinction in mice.

  Bahari-Javan S, Maddalena A, Kerimoglu C, Wittnam J, Held T, Bahr M, Burkhardt S, Delalle I, Kugler S, Fischer A, Sananbenesi F.

  Journal of Neuroscience 2012 Apr; 32(15):5062.

  Application: ChIP, IF, IHC, WB-Ti, Mouse, Mouse brains

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- Enhancer of Zeste 2 (EZH2) is up-regulated in malignant gliomas and in glioma stem-like cells.

  Orzan F, Pellegatta S, Poliani PL, Pisati F, Caldera V, Menghi F, Kapetis D, Marras C, Schiffer D, Finocchiaro G.

  Neuropathology and Applied Neurobiology 2011 Jun; 37(4):381.

  Application: ChIP, Human, Human glioma stem-like cells

- The core binding factor CBF negatively regulates skeletal muscle terminal differentiation.

  Philipot O, Joliot V, Ait-Mohamed O, Pellentz C, Robin P, Fritsch L, Ait-Si-Ali S.

  PLoS One 2010 Feb; 5(2):e9425.

  Application: ChIP, Mouse, C2C12 cells

- Functional connection between deimination and deacetylation of histones.

  Denis H, Deplus R, Putmans P, Yamada M, Metivier R, Fuks F.

  Molecular and Cellular Biology 2009 Sep; 29(18):4982.

  Application: ChIP, IP, WB-Tr, Human, HEK 293T, MDA-MB-231 cells

Pathway

- Cell cycle
- Chronic myeloid leukemia
- Notch signaling pathway
- Pathways in cancer

Disease

- Asthma
- Cognition Disorders
- Genetic Predisposition to Disease
- Huntington disease
- Mental Status Schedule
- Neoplasms
- Ovarian cancer

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- Ovarian Neoplasms
- Tobacco Use Disorder

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