abcam

Product datasheet

Anti-HDAC1 antibody ab7028

24 Abreviews 233 References 7 Images

Overview

Product name	Anti-HDAC1 antibody
Description	Rabbit polyclonal to HDAC1
Host species	Rabbit
Tested applications	**Suitable for:** ICC/IF, WB, IP
Species reactivity	**Reacts with:** Mouse, Rat, Human, Chinese hamster
Immunogen	Synthetic peptide corresponding to Human HDAC1 aa 466-482 conjugated to Keyhole Limpet Haemocyanin (KLH). Sequence: C-KEEKPEAKGVKEEVKLA Database link: **HDAC1** Run BLAST with Run BLAST with
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.40 Preservative: 0.097% Sodium azide Constituent: 0.0268% PBS
Purity	IgG fraction
Purification notes	Whole antiserum is fractionated and further purified by anion-exchange chromatography to provide the IgG fraction of antiserum that is essentially free of other rabbit serum proteins.

Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab7028 in the following tested applications.

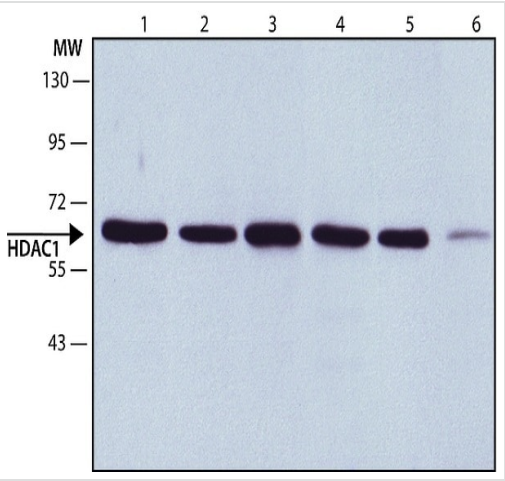
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF	★★★★★ (4)	1/200.
WB	★★★★☆ (8)	1/2000 - 1/20000. Predicted molecular weight: 55 kDa.
IP	★★★★★ (1)	Use at an assay dependent concentration. Use 5 -10 µL antibody per reaction

Target

Function	Responsible for the deacetylation of lysine residues on the N-terminal part of the core histones (H2A, H2B, H3 and H4). Histone deacetylation gives a tag for epigenetic repression and plays an important role in transcriptional regulation, cell cycle progression and developmental events. Histone deacetylases act via the formation of large multiprotein complexes. Deacetylates SP proteins, SP1 and SP3, and regulates their function. Component of the BRG1-RB1-HDAC1 complex, which negatively regulates the CREST-mediated transcription in resting neurons. Upon calcium stimulation, HDAC1 is released from the complex and CREBBP is recruited, which facilitates transcriptional activation. Deacetylates TSHZ3 and regulates its transcriptional repressor activity. Deacetylates 'Lys-310' in RELA and thereby inhibits the transcriptional activity of NF-kappa-B.
Tissue specificity	Ubiquitous, with higher levels in heart, pancreas and testis, and lower levels in kidney and brain.
Sequence similarities	Belongs to the histone deacetylase family. HD type 1 subfamily.
Post-translational modifications	Sumoylated on Lys-444 and Lys-476; which promotes enzymatic activity. Desumoylated by SENP1. Phosphorylation on Ser-421 and Ser-423 promotes enzymatic activity and interactions with NuRD and SIN3 complexes. Ubiquitinated by CHFR, leading to its degradation by the proteasome.
Cellular localization	Nucleus.

Images



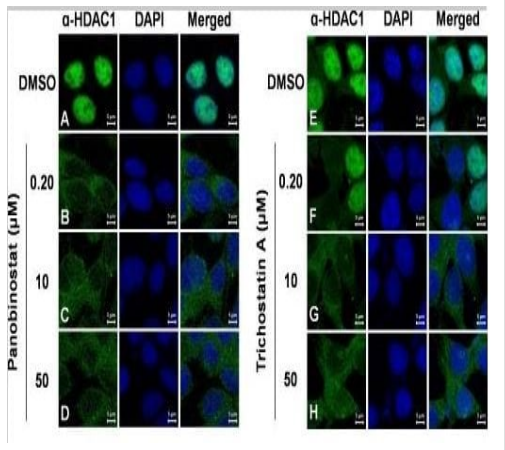
Western blot - Anti-HDAC1 antibody - ChIP Grade (ab7028)

All lanes : Anti-HDAC1 antibody (ab7028) at 1/10000 dilution

Lane 1 : HEK-293T (human epithelial cell line from embryonic kidney transformed with large T antigen) cell lysate
Lane 2 : HeLa (human epithelial cell line from cervix adenocarcinoma) cell lysate
Lane 3 : K562 (human chronic myelogenous leukemia cell line from bone marrow) cell lysate
Lane 4 : CHO (Chinese hamster ovary cell line) cell lysate
Lane 5 : NIH/3T3 (mouse embryo fibroblast cell line) cell lysate
Lane 6 : PC-12 (rat adrenal gland pheochromocytoma cell line) cell lysate

Secondary
All lanes : Goat Anti-Rabbit HRP

Predicted band size: 55 kDa

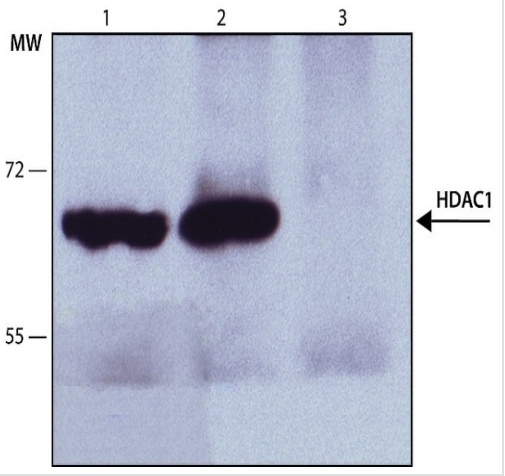


Immunocytochemistry/ Immunofluorescence - Anti-HDAC1 antibody (ab7028)

MCF-7 cells were treated with indicated concentrations of panobinostat (optical sections A-D, respectively) or trichostatin A (optical sections E-H, respectively) for 12 hours, fixed, permeabilized and optical sections were obtained by laser scanning confocal microscopy. Fluorescence signal for HDAC1 is shown in green (left panels), DAPI staining is shown in blue (middle panels), and merged optical sections are shown in the right panels. Colocalization analysis of HDAC1 fluorescence signal and the DAPI stain signal was performed with JACoP (ImageJ).

HDAC1 was detected with ab7028. cells were ficed with 4% paraformaldehyde and permeabilized with 0.1% Triton X-100.

(After Figure 3 of Hanigan et al).



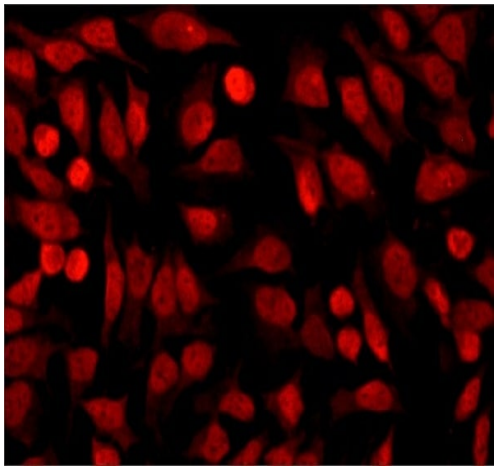
Immunoprecipitation - Anti-HDAC1 antibody - ChIP Grade (ab7028)

HDAC1 was immunoprecipitated from HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell extract with ab7028.

Lane 1: 5 µl ab7028 in HeLa whole cell lysate.

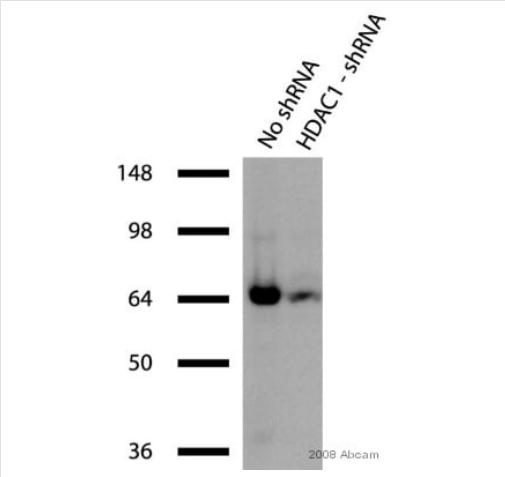
Lane 2: 10 µl ab7028 in HeLa whole cell lysate.

Lane 3: 10 µl control antibody in HeLa whole cell lysate.



Immunocytochemistry/ Immunofluorescence - Anti-HDAC1 antibody (ab7028)

Immunofluorescence analysis of methanol fixed HeLa cells with ab7028 labelling HDAC1 at 1/200 dilution. The antibody was developed using Goat Anti-Rabbit IgG, Cy3 conjugate.



Western blot - Anti-HDAC1 antibody - ChIP Grade (ab7028)

This image is courtesy of an anonymous Abreview

All lanes : Anti-HDAC1 antibody (ab7028) at 1/1000 dilution

Lane 1 : Whole cell lysate from human HEK293 cell line
Lane 2 : Whole cell lysate from human HEK293 cell line treated with HDAC1 gene silencing shRNA

Lysates/proteins at 20 µg per lane.

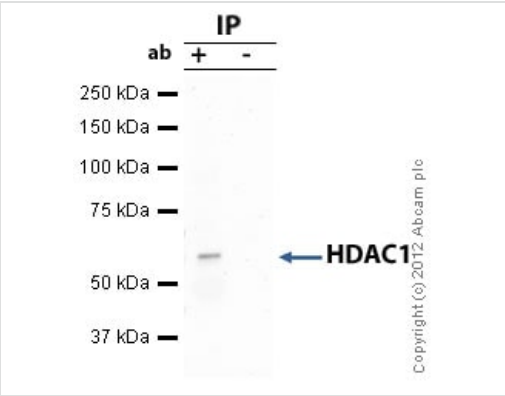
Secondary
All lanes : HRP-conjugated goat anti-rabbit Ig at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

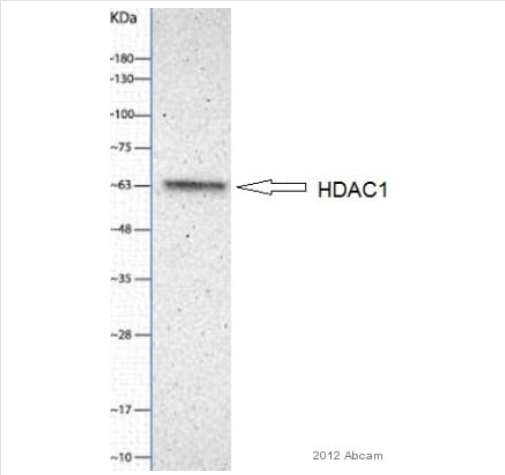
Predicted band size: 55 kDa

Exposure time: 10 seconds



Immunoprecipitation - Anti-HDAC1 antibody - ChIP Grade (ab7028)

HDAC1 was immunoprecipitated using 0.5mg Hela whole cell extract, 5µg of Rabbit polyclonal to HDAC1 and 50µl of protein G magnetic beads (+). No antibody was added to the control (-).
The antibody was incubated under agitation with Protein G beads for 10min, Hela whole cell extract lysate diluted in RIPA buffer was added to each sample and incubated for a further 10min under agitation.
Proteins were eluted by addition of 40µl SDS loading buffer and incubated for 10min at 70^{o}C; 10µl of each sample was separated on a SDS PAGE gel, transferred to a nitrocellulose membrane, blocked with 5% BSA and probed with **ab7028**.
Secondary: Mouse monoclonal [SB62a] Secondary Antibody to Rabbit IgG light chain (HRP) (**ab99697**).
Band: 60ka: HDAC1.



Western blot - Anti-HDAC1 antibody - ChIP Grade (ab7028)

This image is courtesy of an anonymous Abreview

Anti-HDAC1 antibody (ab7028) at 1/2000 dilution + Human HuH-7 whole cell lysate at 15 µg

Secondary

HRP conjugated Sheet anti-rabbit IgG polyclonal at 1/20000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 55 kDa

Exposure time: 20 seconds

Blocked with 5% milk for 1 hour at 20°C

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