




Product datasheet

Anti-HDAC4 antibody ab12172

★★★★★ [7 Abreviews](#) [26 References](#) [4 Images](#)

Overview

Product name	Anti-HDAC4 antibody
Description	Rabbit polyclonal to HDAC4
Host species	Rabbit
Tested applications	Suitable for: ICC/IF, WB, IP
Species reactivity	Reacts with: Mouse, Rat, Human Predicted to work with: Rabbit, Chicken 
Immunogen	Synthetic peptide: MSSQSHPDGLSGRDQPVEL , corresponding to amino acids 1-19 of Human HDAC4 conjugated to KLH with C-terminal added lysine. The corresponding sequence is identical in mouse and chicken.  Run BLAST with  Run BLAST with
Positive control	WB: NIH/3T3 whole cell extract, Rat brain cell extract. IP: HeLa whole cell extract. ICC/IF: HeLa tissue.
General notes	Storage in frost-free freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use 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. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	pH: 7.40 Preservative: 0.097% Sodium azide Constituents: 0.0268% PBS, 1% BSA

Purity	Immunogen affinity purified
Purification notes	The antibody is affinity-purified using the immunizing peptide immobilized on agarose.
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab12172 in the following tested applications.

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

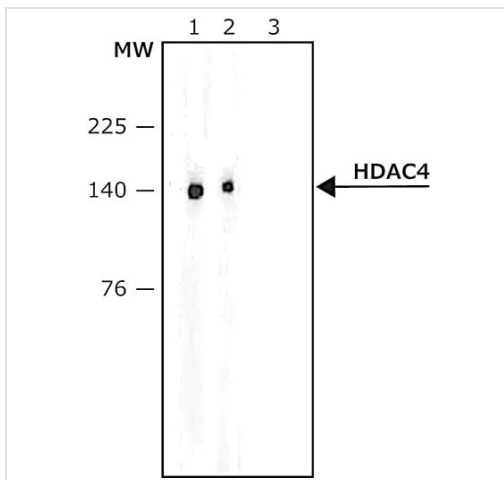
Application	Abreviews	Notes
ICC/IF	★★★★★ (1)	1/250 - 1/500.
WB	★★★★★ (5)	1/500 - 1/2000. Predicted molecular weight: 119 kDa. Additional weak bands may be detected when blotting using different extract preparations.
IP		Use at an assay dependent concentration. 10-20 µg of antibody immunoprecipitates HDAC4 from a RIPA extract of HeLa nuclei from 1×10^7 cells.

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. Involved in muscle maturation via its interaction with the myocyte enhancer factors such as MEF2A, MEF2C and MEF2D.
Tissue specificity	Ubiquitous.
Involvement in disease	Defects in HDAC4 are the cause of brachydactyly-mental retardation syndrome (BDMR) [MIM:600430]. A syndrome resembling the physical anomalies found in Albright hereditary osteodystrophy. Common features are mild facial dysmorphism, congenital heart defects, distinct brachydactyly type E, mental retardation, developmental delay, seizures, autism spectrum disorder, and stocky build. Soft tissue ossification is absent, and there are no abnormalities in parathyroid hormone or calcium metabolism.
Sequence similarities	Belongs to the histone deacetylase family. HD type 2 subfamily.
Domain	The nuclear export sequence mediates the shuttling between the nucleus and the cytoplasm.
Post-translational modifications	Phosphorylated by CaMK4 at Ser-246, Ser-467 and Ser-632. Phosphorylation at other residues is required for the interaction with 14-3-3. Sumoylation on Lys-559 is promoted by the E3 SUMO-protein ligase RANBP2, and prevented by phosphorylation by CaMK4.
Cellular localization	Nucleus. Cytoplasm. Shuttles between the nucleus and the cytoplasm. Upon muscle cells differentiation, it accumulates in the nuclei of myotubes, suggesting a positive role of nuclear HDAC4 in muscle differentiation. The export to cytoplasm depends on the interaction with a 14-3-

3 chaperone protein and is due to its phosphorylation at Ser-246, Ser-467 and Ser-632 by CaMK4. The nuclear localization probably depends on sumoylation.

Images



Western blot - Anti-HDAC4 antibody (ab12172)

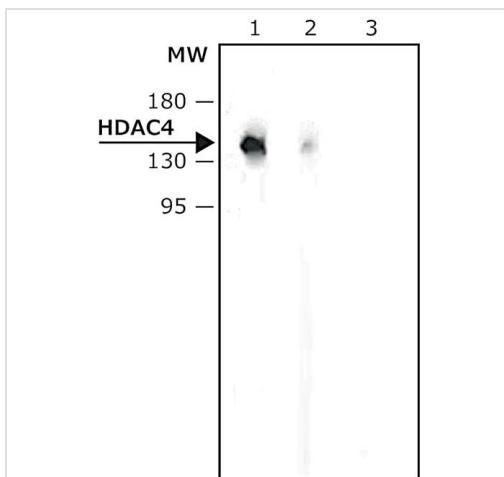
Lane 1 : Anti-HDAC4 antibody (ab12172) at 1/500 dilution

Lane 2 : Anti-HDAC4 antibody (ab12172) at 1/1000 dilution

Lanes 1-2 : Rat brain whole extract

Lane 3 : Negative control

Predicted band size: 119 kDa



Western blot - Anti-HDAC4 antibody (ab12172)

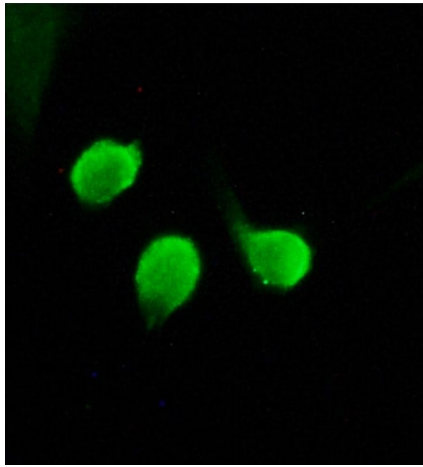
Lane 1 : Anti-HDAC4 antibody (ab12172) at 1/1000 dilution

Lane 2 : Anti-HDAC4 antibody (ab12172) at 1/2000 dilution

Lanes 1-2 : NIH/3T3 (Mouse embryonic fibroblast cell line) whole cell extract

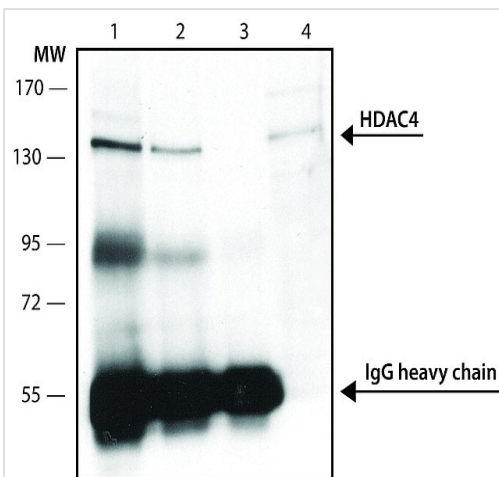
Lane 3 : Negative Control

Predicted band size: 119 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of HeLa tissue labelling HDAC4 with ab12172 at 1/250 dilution.

Immunocytochemistry/ Immunofluorescence - Anti-HDAC4 antibody (ab12172)



Anti-HDAC4 antibody, ab12172, was used to immunoprecipitate HDAC4 from HeLa whole cell extract.

Lane 1: 10 µg of ab12172

Lane 2: 5 µg of ab12172

Negative control: No cell extract

Positive control: HeLa whole cell extract

Immunoprecipitation - Anti-HDAC4 antibody (ab12172)

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