

Product datasheet

Anti-HDAC4 antibody ab16339

[1 References](#) [2 Images](#)

Overview

Product name	Anti-HDAC4 antibody
Description	Rabbit polyclonal to HDAC4
Host species	Rabbit
Tested applications	Suitable for: IHC-P, WB
Species reactivity	Reacts with: Human
Immunogen	Synthetic peptide corresponding to Human HDAC4 aa 1-18. Sequence: MSSQSHPDGLSGRDQPVE Run BLAST with Run BLAST with
Positive control	WB: HeLa cell lysate. IHC-P: Human skin tissue.
General notes	<p>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.</p> <p>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</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS, 0.1% BSA
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab16339 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
IHC-P		1/20.
WB		1/1000. Predicted molecular weight: 140 kDa.

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

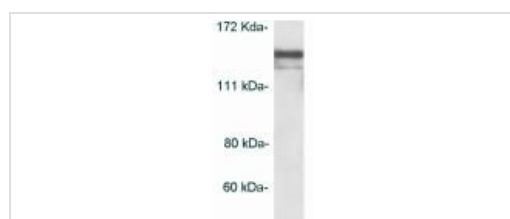
Phosphorylated by CaMK4 at Ser-246, Ser-467 and Ser-632. Phosphorylation at other residues is required for the interaction with 14-3-3.

Sumoylation on Lys-559 is promoted by the E3 SUMO-protein ligase RANBP2, and prevented by phosphorylation by CaMK4.

Cellular localization

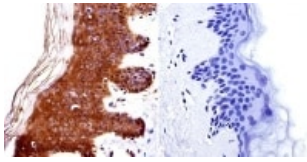
Nucleus. Cytoplasm. Shuttles between the nucleus and the cytoplasm. Upon muscle cells differentiation, it accumulates in the nuclei of myotubes, suggesting a positive role of nuclear HDAC4 in muscle differentiation. The export to cytoplasm depends on the interaction with a 14-3-3 chaperone protein and is due to its phosphorylation at Ser-246, Ser-467 and Ser-632 by CaMK4. The nuclear localization probably depends on sumoylation.

Images



ab16339 at 1/1000 detecting HDAC4 from HeLa cell lysate by Western blot

Western blot - Anti-HDAC4 antibody (ab16339)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC4 antibody (ab16339)

Immunohistochemistry was performed on normal biopsies of deparaffinized Human skin tissue. To expose target proteins, heat induced antigen retrieval was performed using 10mM sodium citrate (pH6.0) buffer, microwaved for 8-15 minutes. Following antigen retrieval tissues were blocked in 3% BSA-PBS for 30 minutes at room temperature. Tissues were then probed at a dilution of 1:20 with a Rabbit Polyclonal Antibody recognizing HDAC4 (ab16339) or without primary antibody (negative control) overnight at 4°C in a humidified chamber. Tissues were washed extensively with PBST and endogenous peroxidase activity was quenched with a peroxidase suppressor. Detection was performed using a biotin-conjugated secondary antibody and SA-HRP, followed by colorimetric detection using DAB. Tissues were counterstained with hematoxylin and prepped for mounting.

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