




Product datasheet

Anti-HDAC4 antibody [HDAC-144] α b12171

KO VALIDATED

★★★★☆ 4 Abreviews 8 References 2 Images

Overview

Product name	Anti-HDAC4 antibody [HDAC-144]
Description	Mouse monoclonal [HDAC-144] to HDAC4
Host species	Mouse
Tested applications	Suitable for: WB
Species reactivity	Reacts with: Mouse, Rat, Human Predicted to work with: Chicken 
Immunogen	Synthetic peptide: MSSQSHPDGLSGRDQPVEL , corresponding to amino acids 1-19 of Human HDAC4 conjugated to KLH with C-terminal added lysine. <div>  Run BLAST with  Run BLAST with </div>
Positive control	WB: HeLa, NIH/3T3, P19, Jurkat and PC-12 cell lysates; Rat brain lysate. Total cell extracts of NIH3T3 fibroblast cells.
General notes	<p>This product was changed from ascites to tissue culture supernatant on 23/05/2019. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.</p> <p>Storage in frost-free freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.</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.

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 or -80°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.40 Preservative: 0.0975% Sodium azide Constituent: 0.0268% PBS
Purity	Tissue culture supernatant
Clonality	Monoclonal
Clone number	HDAC-144
Isotype	IgG2a

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab12171 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

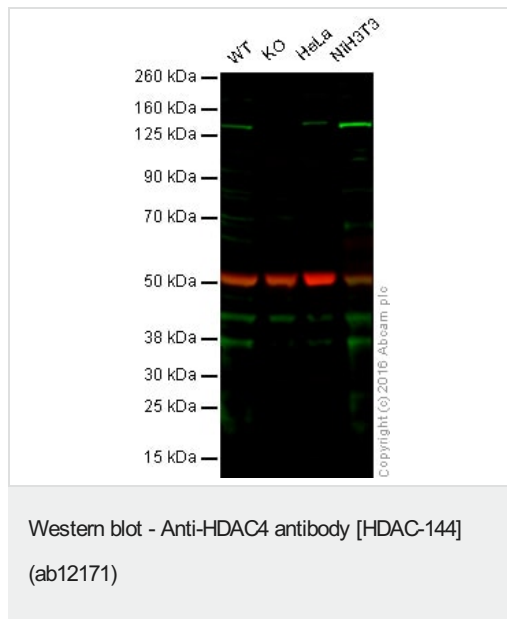
Application	Abreviews	Notes
WB	★★★★★ (3)	Use at an assay dependent concentration. Detects a band of approximately 140 kDa (predicted molecular weight: 119 kDa).

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



Lane 1: Wild-type HAP1 cell lysate (40 µg)

Lane 2: HDAC4 knockout HAP1 cell lysate (40 µg)

Lane 3: HeLa cell lysate (40 µg)

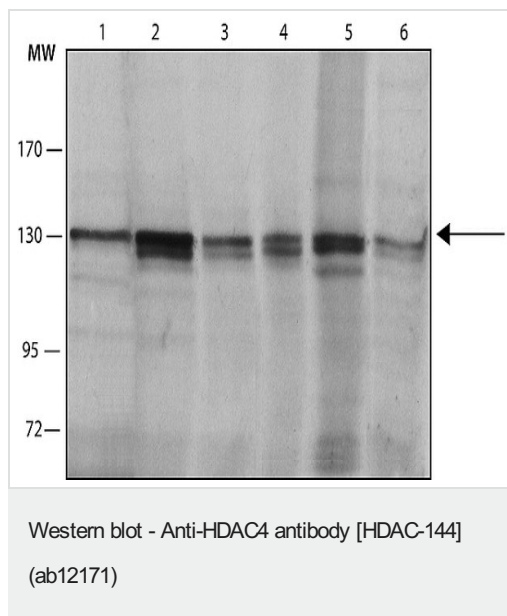
Lane 4: NIH3T3 cell lysate (40 µg)

Lanes 1 - 4: Merged signal (red and green). Green - ab12171 observed at 140 kDa. Red - loading control, **ab176560**, observed at 52 kDa.

ab12171 was shown to recognize HDAC4 when HDAC4 knockout samples were used, along with additional cross-reactive bands.

Wild-type and HDAC4 knockout samples were subjected to SDS-PAGE. Ab12171 and **ab176560** (loading control to alpha tubulin) were diluted at 1 µg/ml and 1:10,000 dilution respectively and incubated overnight at 4°C. Blots were developed with Goat anti-Mouse IgG H&L (IRDye® 800CW) preadsorbed (**ab216772**) and Goat Anti-Rabbit IgG H&L (IRDye® 680RD) preadsorbed (**ab216777**) secondary antibodies at 1:10,000 dilution for 1 hour at room temperature before imaging.

This image was generated using the ascites version of the product.



All lanes : Anti-HDAC4 antibody [HDAC-144] (ab12171) at 1 µg/ml

Lane 1 : HeLa (human epithelial cell line from cervix adenocarcinoma) cell lysate

Lane 2 : NIH/3T3 (mouse embryo fibroblast cell line) cell lysate

Lane 3 : P19 cell lysate

Lane 4 : Jurkat (human T cell leukemia cell line from peripheral blood) cell lysate

Lane 5 : Rat brain lysate

Lane 6 : PC-12 (rat adrenal gland pheochromocytoma cell line) cell lysate

Secondary

All lanes : Goat Anti-Mouse IgG-Peroxidase

Developed using the ECL technique.

Predicted band size: 119 kDa

This image was generated using the ascites version of the product.

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