

Product datasheet

Anti-HDAC4 antibody [7E2E6] ab234084

[2 References](#) [4 Images](#)

Overview

Product name	Anti-HDAC4 antibody [7E2E6]
Description	Mouse monoclonal [7E2E6] to HDAC4
Host species	Mouse
Tested applications	Suitable for: WB, Flow Cyt, ICC/IF
Species reactivity	Reacts with: Human
Immunogen	Recombinant fragment corresponding to Human HDAC4 aa 456-592. Expressed in E.coli. Database link: P56524
Positive control	WB: Human HDAC4 (aa 456-592) recombinant protein; HDAC4 (aa 456-592)-hlgGfC-transfected HEK-293 cell lysate. ICC/IF: HeLa cells. Flow cyt: HeLa cells.
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. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.05% Sodium azide Constituent: PBS
Purity	Protein G purified
Purification notes	Purified from tissue culture supernatant.
Clonality	Monoclonal
Clone number	7E2E6
Isotype	IgG1

Applications

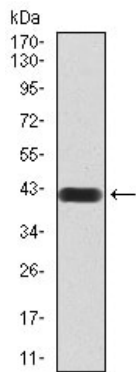
The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab234084 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		1/100 - 1/500.
Flow Cyt		1/200 - 1/400.
ICC/IF		1/200 - 1/1000.

Target

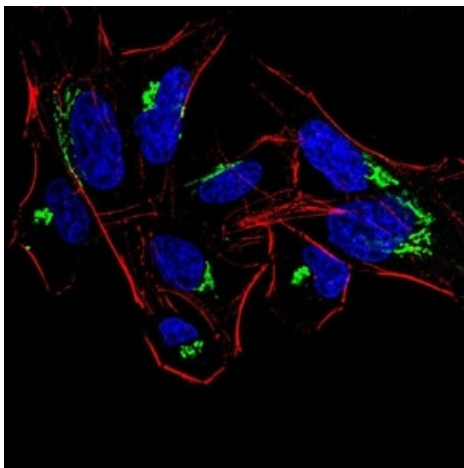
Function	Responsible for the deacetylation of lysine residues on the N-terminal part of the core histones (H2A, H2B, H3 and H4). Histone deacetylation gives a tag for epigenetic repression and plays an important role in transcriptional regulation, cell cycle progression and developmental events. Histone 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 [7E2E6]
(ab234084)

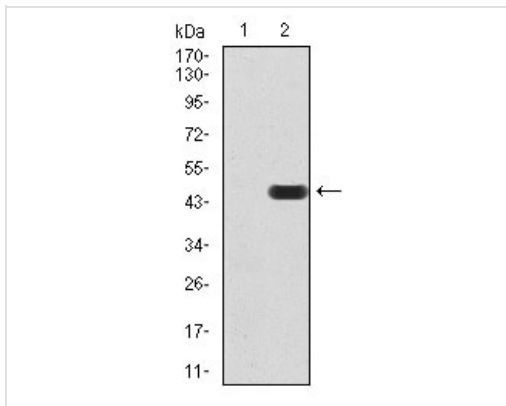
Anti-HDAC4 antibody [7E2E6] (ab234084) at 1/100 dilution +
Human HDAC4 (aa 456-592) recombinant protein.



Immunocytochemistry/ Immunofluorescence - Anti-
HDAC4 antibody [7E2E6] (ab234084)

Immunofluorescence analysis of HeLa (human epithelial cell line
from cervix adenocarcinoma) cells labeling HDAC4 using
ab234084 at 1/200 dilution (green).

Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments labeled
with AlexaFluor[®]-555-Phalloidin.

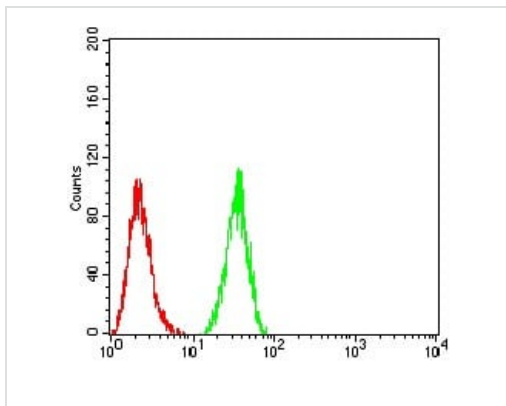


Western blot - Anti-HDAC4 antibody [7E2E6]
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All lanes : Anti-HDAC4 antibody [7E2E6] (ab234084) at 1/100 dilution

Lane 1 : HEK-293 (human epithelial cell line from embryonic kidney) cell lysate.

Lane 2 : HDAC4 (aa 456-592)-hlgGfc-transfected HEK-293 cell lysate.



Flow Cytometry - Anti-HDAC4 antibody [7E2E6]
(ab234084)

Flow cytometric analysis of HeLa (human epithelial cell line from cervix adenocarcinoma) cells labeling HDAC4 using ab234084 at 1/200 dilution (green) compared to a negative control (red).

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