abcam

ab234084

Anti-HDAC4 antibody [7E2E6]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human HDAC4 aa 450-600. The exact immunogen used to generate this antibody is proprietary information. Database link P56524
Clone number	7E2E6
Purification technique	Affinity purification Protein G
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from tissue culture supernatant.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/200 - 1/400
Notes	-

WB

Tested

Species	Human
Dilution info	1/100 - 1/500
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/200 - 1/1000
Notes	-

Target data

See full target information HDAC4

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. Involved in the MTA1-mediated epigenetic regulation of ESR1 expression in breast cancer. Deacetylates HSPA1A and HSPA1B at 'Lys-77' leading to their preferential binding to co-chaperone STUB1 (PubMed:27708256).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C

Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	HDAC4 also known as Histone Deacetylase 4 functions in the regulation of gene expression through chromatin remodeling. This protein removes acetyl groups from histone proteins causing chromatin compaction and transcriptional repression. HDAC4 has a molecular weight of approximately 140 kDa. The protein is found in various tissues including brain heart and skeletal muscle and plays essential roles in various cellular processes. Alternate names for HDAC4 include KIAA0288 and HD4.
Biological function summary	The role of HDAC4 extends beyond chromatin remodeling as it serves as a critical regulator in several cellular functions. As part of a complex HDAC4 interacts with other proteins to control cell cycle differentiation and apoptosis. It cooperates with transcriptional repressors like MEF2 and RUNX2 influencing various signaling pathways. The protein's activity impacts neuronal survival muscle development and cardiac hypertrophy through its regulatory mechanisms.
Pathways	HDAC4 integrates into significant signaling networks notably the MAPK and calcium-calmodulin signaling pathways. Within the MAPK pathway HDAC4 associates with proteins like MEF2 impacting cellular growth and differentiation processes. In the calcium-calmodulin pathway HDAC4 affects gene transcription via its interaction with the phosphatase calcineurin linking intracellular calcium levels with transcriptional responses.
Associated diseases and disorders	HDAC4 has associations with neurological disorders and cancer. Mutations and dysregulation in HDAC4 are linked to neuronal disorders such as Huntington's disease. In cancer HDAC4 interacts with other oncogenic proteins such as p53 influencing tumor progression and resistance to therapy. Consequently HDAC4 presents as a potential target for therapeutic intervention in these disease contexts.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

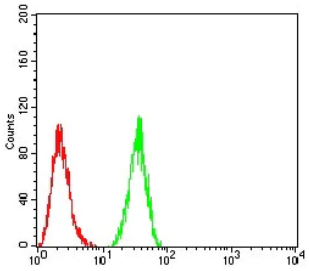
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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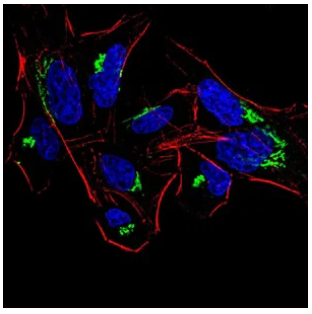
4 product images



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

HDAC4 Flow Cytometry staining using mouse Anti-HDAC4 antibody

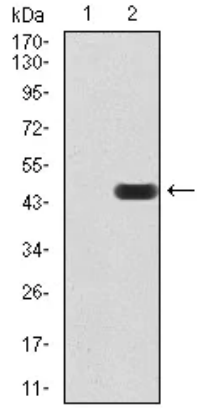
Flow cytometric analysis of HeLa (human epithelial cell line from cervix adenocarcinom) cells labeling HDAC4 using ab234084 at 1/200 dilution (green) compared to a negative control (red).



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

HDAC4 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-HDAC4 antibody

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.



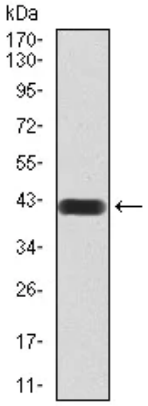
Western blot - Anti-HDAC4 antibody [7E2E6] (ab234084)

All lanes:
Western blot - 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)-hIgGFc-transfected HEK-293 cell lysate.

Predicted band size: 119 kDa



Western blot - Anti-HDAC4 antibody [7E2E6] (ab234084)

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

All lanes:
Human HDAC4 (aa 456-592) recombinant protein.

Predicted band size: 119 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.