

Anti-HDAC4 Picoband Antibody

Catalog # ABO10130

Product Information

Application	WB
Primary Accession	P56524
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Histone deacetylase 4(HDAC4) detection. Tested with WB in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	9759
Other Names	Histone deacetylase 4, HD4, 3.5.1.98, HDAC4, KIAA0288
Calculated MW	119040
Application Details	Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat
Subcellular 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 and SIK1. The nuclear localization probably depends on sumoylation.
Tissue Specificity	Ubiquitous.
Source	Eukaryota
Protein Name	Histone deacetylase 4
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg NaN ₃ .
Immunogen	E.coli-derived human HDAC4 recombinant protein (Position: Q4-Q213). Human HDAC4 shares 98.6% and 98.1% amino acid (aa) sequence identity with mouse and rat HDAC4, respectively.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins.

Storage At -20 °C for one year. After r° Constitution, at 4 °C for one month. It° Can also be aliquotted and stored frozen at -20 °C for a longer time.Avoid repeated freezing and thawing.

Protein Information

Name HDAC4 ([HGNC:14063](#))

Synonyms KIAA0288

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](#)).

Cellular Location Nucleus. Cytoplasm. Note=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 and SIK1. The nuclear localization probably depends on sumoylation Interaction with SIK3 leads to HDAC4 retention in the cytoplasm (By similarity). {ECO:0000250|UniProtKB:Q6NZM9}

Tissue Location Ubiquitous.

Background

Histone deacetylase 4, also known as HDAC4, is a protein that in humans is encoded by the HDAC4 gene. It is mapped to 2q37.3. Histones play a critical role in transcriptional regulation, cell cycle progression, and developmental events. Histone acetylation/deacetylation alters chromosome structure and affects transcription factor access to DNA. The protein encoded by this gene belongs to class II of the histone deacetylase/acuc/apha family. It possesses histone deacetylase activity and represses transcription when tethered to a promoter. This protein does not bind DNA directly, but through transcription factors MEF2C and MEF2D. It seems to interact in a multiprotein complex with RbAp48 and HDAC3.

Images

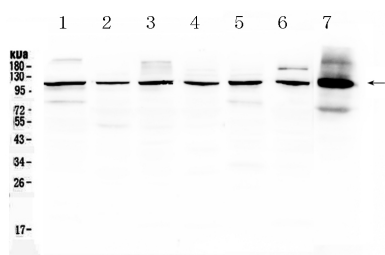


Figure 1. Western blot analysis of HDAC4 using anti-HDAC4 antibody (ABO10130). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: rat brain tissue lysates, Lane 2: rat lung tissue lysates, Lane 3: rat testis tissue lysates, Lane 4: mouse lung tissue lysates, Lane 5: mouse brain tissue lysates, Lane 6: mouse testis tissue lysates, Lane 7: HEPG2 whole cell lysates. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5%

Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-HDAC4 antigen affinity purified polyclonal antibody (Catalog # ABO10130) at 0.5 μ g/mL overnight at 4 °C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for HDAC4 at approximately 106KD. The expected band size for HDAC4 is at 106KD.

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