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HDAC4 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1345a

Product Information

Application	WB, E
Primary Accession	P56524
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	7B2
Isotype	IgG1
Calculated MW	119040
Description	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.
Immunogen	Purified recombinant fragment of human HDAC4 expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	9759
Other Names	Histone deacetylase 4, HD4, 3.5.1.98, HDAC4, KIAA0288
Dilution	WB~~1/500 - 1/2000 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	HDAC4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

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.

References

1. Biochem Biophys Res Commun. 2008 Dec 19;377(3):852-6. 2. Curr Top Med Chem. 2009;9(3):235-40. 3. Nucleic Acids Res. 2010 May;38(9):2813-24.

Images

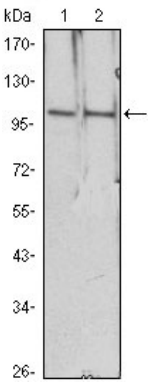


Figure 1: Western blot analysis using HDAC4 mouse mAb against Hela (1), Jurkat (2) cell lysate.

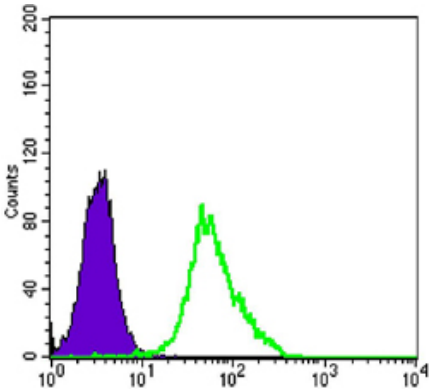


Figure 3: Flow cytometric analysis of Hela cells using anti-MAP2K2 mAb (green) and negative control (purple).

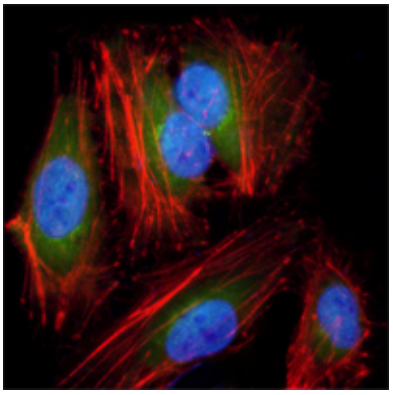


Figure 2: Immunofluorescence analysis of Hela cells using anti-MAP2K2 mAb (green). Red: Actin filaments have been labeled with DY-554 phalloidin. Blue: DRAQ5 fluorescent DNA dye.

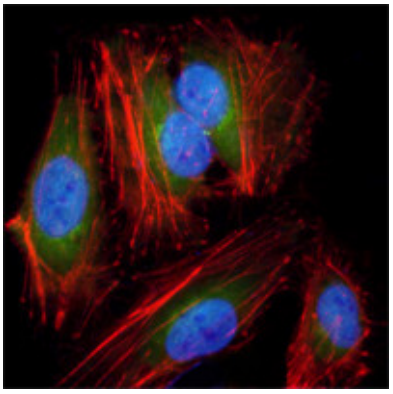


Figure 2:Immunofluorescence analysis of Hela cells using anti-MAP2K2 mAb (green). Red: Actin filaments have been labeled with DY-554 phalloidin. Blue: DRAQ5 fluorescent DNA dye.

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