10320 Camino Santa Fe, Suite G
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HDAC9 Antibody (N-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1109A

Specification

HDAC9 Antibody (N-term) - Product Information

Application	**IF, IP, WB, IHC-P,E**
Primary Accession	Q9UKV0
Other Accession	Q99N13, Q5ZKH6
Reactivity	**Human**
Predicted	**Chicken, Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**2-32**

HDAC9 Antibody (N-term) - Additional Information

Gene ID 9734

Other Names
Histone deacetylase 9, HD9, Histone deacetylase 7B, HD7, HD7b, Histone deacetylase-related protein, MEF2-interacting transcription repressor MITR, HDAC9, HDAC7, HDAC7B, HDRP, KIAA0744, MITR

Target/Specificity
This HDAC9 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 2-32 amino acids from the N-terminal region of human HDAC9.

Dilution
IF~~1:1,000
IP~~1:100
WB~~1:1000
IHC-P~~1:50~100

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
HDAC9 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

HDAC9 Antibody (N-term) - Protein Information

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Name HDAC9

Synonyms HDAC7, HDAC7B, HDRP, KIAA0744, MITR

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. Represses MEF2-dependent transcription.

Cellular Location
Nucleus.

Tissue Location
Broadly expressed, with highest levels in brain, heart, muscle and testis. Isoform 3 is present in human bladder carcinoma cells (at protein level).

HDAC9 Antibody (N-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

HDAC9 Antibody (N-term) - Images

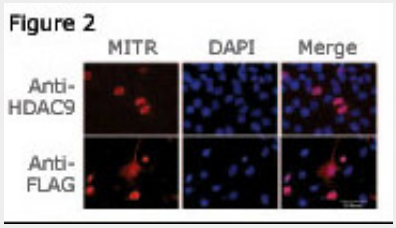
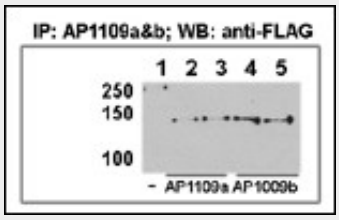
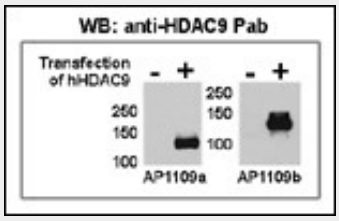


Figure 2: Immunofluorescence staining of MITR for a compartmentalization study in undifferentiated C2C12 myoblasts transfected with a MITR-expressing plasmid. MITR is detected by using the HDAC9 N-term antibody (top panel) or a FLAG antibody (bottom panel) detecting a FLAG epitope fused at the N-term end of the MITR construct. Data courtesy of laboratory of Dr. Eileen Friedman. Dept of Pathology, Upstate Medical University, State University of New York.



This figure shows that both Pab can immunoprecipitate (IP) HDAC9 from HeLa-HDAC9 tranfected cells. (Data kindly provided by Dr. Zhigang Yuan, H. Lee Moffitt Cancer Center and Research

Institute, Tampa, FL).



Both anti-HDAC9 N-term (AP1109a) and C-term (AP1109b) Pab were tested by WB and IP-WB using HeLa and HeLa-HDAC9 transfected cells. Top figure shows both Pab specifically detect HDAC9 in HeLa-HDAC9 transfected cell but not HeLa alone.

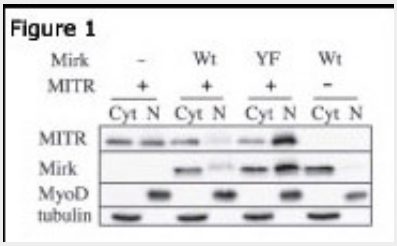
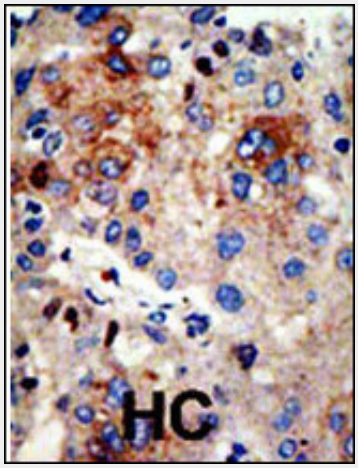


Figure 1: Immunoblots for MITR (AP1109a HDAC9 N-term antibody), Mirk, MyoD and tubulin proteins are shown for cytoplasmic (Cyt) and nuclear (N) extracts from undifferentiated C2C12 myoblasts. Before cell collection for fractionation, the cells are transfected with plasmids coding for Mirk (Wt), kinase-inactive Mirk (YF) or MITR. Data courtesy of laboratory of Dr. Eileen Friedman. Dept of Pathology, Upstate Medical University, State University of New York.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

HDAC9 Antibody (N-term) - Background

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 has sequence homology to members of the histone deacetylase family. This gene is orthologous to the Xenopus and mouse MITR genes. The MITR protein lacks the histone deacetylase catalytic domain. It represses MEF2 activity through recruitment of multicomponent corepressor complexes that include CtBP and HDACs. This encoded protein may play a role in hematopoiesis. Multiple alternatively spliced transcripts have been described for this gene but the full-length nature of some of them has not been determined.

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HDAC9 Antibody (N-term) - References

Petrie, K., et al., J. Biol. Chem. 278(18):16059-16072 (2003). David, D., et al., Genomics 81(5):489-503 (2003). Mahlknecht, U., et al., Biochem. Biophys. Res. Commun. 293(1):182-191 (2002). Zhou, X., et al., Proc. Natl. Acad. Sci. U.S.A. 98(19):10572-10577 (2001). Zhang, C.L., et al., J. Biol. Chem. 276(1):35-39 (2001).

HDAC9 Antibody (N-term) - Citations

- Nucleocytoplasmic Shuttling of Histone Deacetylase 9 Controls Activity-Dependent Thalamocortical Axon Branching
- Novel Interaction of Class IIb Histone Deacetylase 6 (HDAC6) with Class IIa HDAC9 Controls Gonadotropin Releasing Hormone (GnRH) Neuronal Cell Survival and Movement.
- Nucleocytoplasmic translocation of HDAC9 regulates gene expression and dendritic growth in developing cortical neurons.
- Mirk/dyrk1B decreases the nuclear accumulation of class II histone deacetylases during skeletal muscle differentiation.