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Rabbit Anti-HDAC4 + 5 + 9 antibody

SL10763R

Product Name:	HDAC4 + 5 + 9
Chinese Name:	组蛋白去乙酰化酶4+5+9抗体
Alias:	AHO3; Antigen NY-CO-9; BDMR; HA6116; HD4; HD5; HD7; HD7b; HD9; HDAC; HDAC-4; HDACA; HDAC4; HDAC5; HDAC7; HDAC7B; HDAC9; HDAC9B; HDAC9FL; HDACA; HDRP; Histone deacetylase 4; Histone deacetylase 5; Histone deacetylase 7B; Histone deacetylase 9; Histone deacetylase-related protein; MEF2-interacting transcription repressor MITR; MITR; NY-CO-9; HDAC4_HUMAN; HDAC5_HUMAN; HDAC9_HUMAN.
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,Pig,Cow,Horse,Rabbit,
Applications:	ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800ICC=1:100-500IF=1:100-500（Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	119/122/111kDa
Cellular localization:	The nucleuscytoplasmic
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated synthetic peptide derived from human HDAC4 + 5 + 9:651-750/1084
Lsotype:	IgG
Purification:	affinity purified by Protein A
Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
PubMed:	PubMed
Product Detail:	HDAC4 is 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. HDAC5: 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 by repressing transcription of myocyte enhancer MEF2C. During muscle differentiation, it shuttles into the cytoplasm, allowing the expression of myocyte enhancer factors. HDAC9: 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. Isoform 3 lacks active site residues and therefore is catalytically inactive. Represses MEF2-dependent transcription by recruiting HDAC1 and/or HDAC3. Seems to inhibit skeletal myogenesis and to be involved in heart development. Protects neurons from apoptosis, both by inhibiting JUN phosphorylation by MAPK10 and by repressing JUN transcription via HDAC1 recruitment to JUN promoter. **Function:** Responsible for the deacetylation of lysine residues on the N-terminal part of the core histones (H2A, H2B, H3 and H4). Histone deacetylation gi es a tag for epigenetic repression and plays an important role in transcriptional regulation, cell cycle progression and de elopmental e ents. Histone deacetylases act ia the formation of large multiprotein complexes. In ol ed in muscle maturation ia its interaction with the myocyte enhancer factors such as MEF2A, MEF2C and MEF2D. **Subunit:** Interacts with HDAC7. Homodimer. Homodimerization ia its N-terminal domain. Interacts with MEF2C, AHRR, and NR2C1. Interacts with a 14-3-3 chaperone protein in a phosphorylation dependent manner. Interacts with BTBD14B. Interacts with KDM5B. Interacts with MYOCD. Interacts with MORC2. Interacts with ANKRA2. **Subcellular Location:** HDAC4: 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. HDAC5: Nucleus. Cytoplasm. Note: Shuttles between the nucleus and the cytoplasm. In muscle cells, it shuttles into the cytoplasm during myocyte differentiation. The export to cytoplasm depends on the interaction with a 14-3-3 chaperone protein and is due to its phosphorylation at Ser-259 and Ser-498 by AMPK, CaMK1 and SIK1. HDAC9: Nucleus.

Tissue Specificity:
Ubiquitous.

Post-translational modifications:
Phosphorylated by CaMK4 at Ser-246, Ser-467 and Ser-632. Phosphorylation at other residues by CaMK2D is required for the interaction with 14-3-3. Phosphorylation at Ser-350 impairs the binding of ANKRA2 but generates a high-affinity docking site for 14-3-3.
Sumoylation on Lys-559 is promoted by the E3 SUMO-protein ligase RANBP2, and pre ented by phosphorylation by CaMK4.

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, de elopmental delay, seizures, autism spectrum disorder, and stocky build. Soft tissue ossification is absent, and there are no abnormalities in parathyroid hormone or calcium metabolism.

Similarity:
Belongs to the histone deacetylase family. HD type 2 subfamily.

SWISS:
P56524/Q9UQL6/Q9UKV0

Gene ID:
10014
9734
9759

Database links:

Entrez Gene: 10014 Human

Entrez Gene: 9734 Human

Entrez Gene: 9759 Human

Entrez Gene: 15184 Mouse

Entrez Gene: 208727 Mouse

Entrez Gene: 79221 Mouse

	Entrez Gene: 314040 Rat Entrez Gene: 363287 Rat Entrez Gene: 84580 Rat Omim: 605314 Human Omim: 605315 Human Omim: 606543 Human SwissProt: P56524 Human SwissProt: Q9UKV0 Human SwissProt: Q9UQL6 Human SwissProt: Q6NZM9 Mouse SwissProt: Q99N13 Mouse SwissProt: Q9Z2V6 Mouse SwissProt: Q99P99 Rat **Important Note:** This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.