

## Histone Deacetylase 4 monoclonal antibody

Catalog: MB66479

Host: Mouse

Reactivity: Human, Mouse, Rat, Monkey

### BackGround:

Acetylation of the histone tail causes chromatin to adopt an "open" conformation, allowing increased accessibility of transcription factors to DNA. The identification of histone acetyltransferases (HATs) and their large multi-protein complexes has yielded important insights into how these enzymes regulate transcription. HAT complexes interact with sequence-specific activator proteins to target specific genes. In addition to histones, HATs can acetylate nonhistone proteins, suggesting multiple roles for these enzymes. In contrast, histone deacetylation promotes a "closed" chromatin conformation and typically leads to repression of gene activity. Mammalian histone deacetylases can be divided into three classes on the basis of their similarity to various yeast deacetylases. Class I proteins (HDACs 1, 2, 3, and 8) are related to the yeast Rpd3-like proteins, those in class II (HDACs 4, 5, 6, 7, 9, and 10) are related to yeast Hda1-like proteins, and class III proteins are related to the yeast protein Sir2. Inhibitors of HDAC activity are now being explored as potential therapeutic cancer agents.

Histone deacetylases (HDACs) interact with an increasing number of transcription factors, including myocyte enhancer factor 2 (MEF2), to negatively regulate gene expression. HDACs are regulated in part by shuttling between the nucleus and cytoplasm, where export to the cytoplasm facilitates gene activation by removing HDACs from their target genes. The cytoplasmic export is facilitated by 14-3-3 proteins, which bind to specific phosphoserine residues on the HDAC proteins. These phosphoserine 14-3-3 binding modules are highly conserved between HDAC proteins, allowing for their collective regulation in response to specific cell stimuli. For example, the highly conserved HDAC4 Ser246, HDAC5 Ser259 and HDAC7 Ser155 residues are all phosphorylated by CAMK and PKD kinases in response to multiple

cell stimuli, including VEGF-induced angiogenesis in endothelial cells, B cell and T cell activation, and differentiation of myoblasts into muscle fiber.

### Product:

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide, pH 7.3.

### Molecular Weight:

~ 140 kDa

### Swiss-Prot:

P56524

### Purification&Purity:

The antibody was purified by immunogen affinity chromatography.

### Applications:

WB (1/500 - 1/1000), IP (1/10 - 1/50)

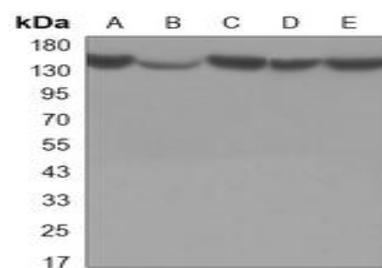
### Storage&Stability:

Store at 4 °C short term. Aliquot and store at -20 °C long term. Avoid freeze-thaw cycles.

### Specificity:

Recognizes endogenous levels of Histone Deacetylase 4 protein.

### DATA:



Western blot analysis of Histone Deacetylase 4 expression in Jurkat (A), HeLa (B), K562 (C), C2C12 (D), NIH3T3 (E) whole cell lysates.

### Note:

For research use only, not for use in diagnostic procedure.

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## PRODUCT DATA SHEET

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