

## HDAC4 antibody (pAb)

**Catalog No:** 40969

**RRID:** AB\_2793463

**Application(s):** ChIP, ChIP-Seq, WB

**Reactivity:** Human, Mouse

**Quantity:** 100 µg

**Purification:** Affinity Purified

**Host:** Rabbit

**Isotype:** IgG

**Concentration:** 1 µg/µl

**Molecular Weight:** 140 kDa

**Background:** HDAC4 (Histone Deacetylase 4) is a member of the class IIa mammalian histone deacetylases (HDACs) involved in regulating chromatin structure during transcription. These enzymes catalyze the removal of acetyl groups from lysine residues of histones and other cellular proteins. Lysine N-ε-acetylation is a dynamic, reversible and tightly regulated protein and histone modification that plays a major role in regulation of gene expression in various cellular functions. It consists of the transfer of an acetyl moiety from an acetyl coenzyme A to the ε-amino group of a lysine residue. *In vivo*, acetylation is controlled by the antagonistic activities of histone acetyltransferases (HATs) and histone deacetylases (HDACs). The HDACs are grouped into four classes, on the basis of similarity to yeast counterparts: HDAC class I (HDAC1, HDAC2, HDAC3 and HDAC8), class II (HDAC4, HDAC5, HDAC6, HDAC7, 9 and 10), class III (SIRT1-7) and class IV (HDAC11).

Unlike other deacetylases, HDAC4 shuttles between the nucleus and cytoplasm and serves as a nuclear co-repressor that regulates bone and muscle development. HDAC4 interacts with the myocyte enhancer factors Mef2a, Mef2c and Mef2d. It also forms part of a multi-protein complex with RbAp48 and HDAC3. HDAC4 is ubiquitous.

**Immunogen:** This HDAC4 antibody was raised against a synthetic peptide corresponding to amino acid residues 194-209 of human HDAC4.

**Buffer:** PBS containing 0.02% sodium azide. Sodium azide is highly toxic.

### Application Notes:

Applications Validated by Active Motif:

ChIP: 5 - 10 µg per ChIP

ChIP-Seq: 5 - 10 µg each

WB: 1 - 2 µg/ml dilution

ChIP-Seq validation was performed by Active Motif's Epigenetics Services; the complete data set is available in the UCSC Genome Browser by clicking [here](#).

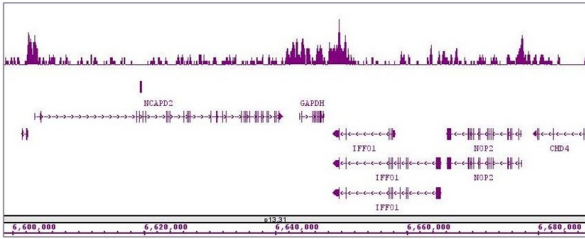
For optimal results in Western blotting, primary antibody incubations should be performed at room temperature. The addition of 0.1% Tween 20 to all blocking solutions may also reduce background. Individual optimization may be required.

**Storage and Guarantee:** Some products may be shipped at room temperature. This will not affect their stability or performance. Store at 4°C for short term. Avoid repeated freeze/thaw cycles by aliquoting items into single-use fractions for storage at -20°C for up to 2 years. Keep all reagents on ice when not in storage. This product is guaranteed for 12 months from date of receipt.

This product is for research use only and is not for use in diagnostic procedures.

#### HDAC4 antibody (pAb) tested by ChIP-Seq.

ChIP was performed using the ChIP-IT<sup>®</sup> High Sensitivity Kit (Cat. No. 53040) with 30  $\mu$ g of chromatin from HeLa cells and 4  $\mu$ g of antibody. ChIP DNA was sequenced on the Illumina HiSeq and 20 million sequence tags were mapped to identify HDAC4 binding sites. The image shows binding across a region of chromosome 12. You can view the complete data set in the UCSC Genome Browser, starting at this specific location, here.



#### HDAC4 antibody (pAb) tested by Western blot.

Detection of HDAC4 by Western blot. The analysis was performed using 293 nuclear extract and HDAC4 pAb. A protein band of approximate molecular weight of 140 kDa was detected.

