Histone H4ac (pan-acetyl) antibody (pAb)

Catalog Nos: 39925, 39026, 39926

RRID: AB_2687872
Isotype: IgG
Application(s): ChIP, ChIP-Seq, DB, ICC, IF, IHC, WB
Reactivity: Human, Mouse, Wide Range Predicted

Quantities: 100 µg, 50 µg, 10 µg
Purification: Protein A Chromatography
Host: Rabbit
Concentration: 1 µg/µl
Molecular Weight: 8 kDa

Background: Histone H4 is one of the core components of the nucleosome. The nucleosome is the smallest subunit of chromatin and consists of 147 base pairs of DNA wrapped around an octamer of core histone proteins (two each of Histone H2A, Histone H2B, Histone H3 and Histone H4). Histone H1 is a linker histone, present at the interface between the nucleosome core and DNA entry/exit points; it is responsible for establishing higher-order chromatin structure. Chromatin is subject to a variety of chemical modifications, including post-translational modifications of the histone proteins and the methylation of cytosine residues in the DNA. Reported histone modifications include acetylation, methylation, phosphorylation, ubiquitylation, glycosylation, ADP-ribosylation, carbonylation and SUMOylation; they play a major role in regulating gene expression.

Lysine N-ε-acetylation is a dynamic, reversible and tightly regulated protein and histone modification that plays a major role in chromatin remodeling and in the regulation of gene expression in various cellular functions. Acetylation of histone H4 occurs at several different lysine positions in the histone tail, and is performed by Histone Acetyltransferases (HATs) such as Hat1 or Gcn5. Acetylation of histones is often associated with transcriptional activation.

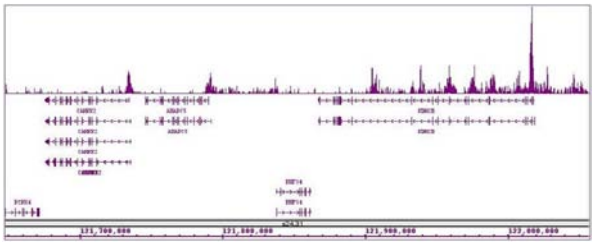
Immunogen: This Histone H4 pan-acetyl antibody was raised against a peptide containing the amino terminal region of *Tetrahymena* hv1, an H2A variant with homology to mammalian histone H4. The antibody recognizes acetylated histone H4, but not H2A, in HeLa extracts.

Buffer: Purified IgG in PBS (pH 7.5) with 30% glycerol and 0.035% sodium azide. Sodium azide is highly toxic. For your convenience, an unpurified serum version (Catalog No. 39243) of this antibody is also available.

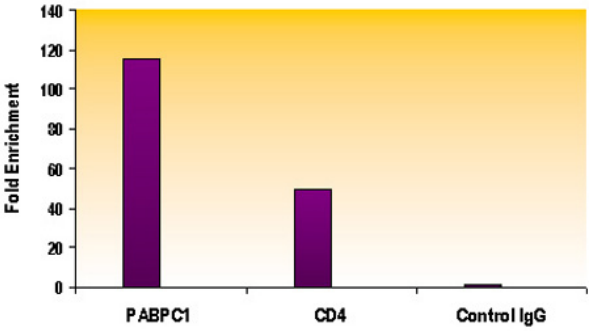
Application Notes:
Applications Validated by Active Motif:
ChIP: 5 - 10 µg per ChIP
ChIP-Seq: 5 - 10 µg each
ICC/IF: 1 - 2 µg/ml dilution
IHC (FFPE): 1:1000 dilution
WB: 1 - 2 µg/ml dilution

Storage and Guarantee: Some products may be shipped at room temperature. This will not affect their stability or performance. 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.

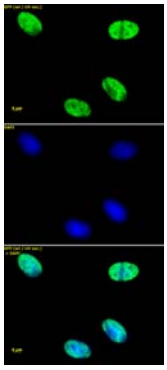
This product is for research use only and is not for use in diagnostic procedures.



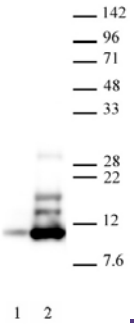
Histone H4ac (pan-acetyl) antibody (pAb) tested by ChIP-Seq.
ChIP was performed using the ChIP-IT® High Sensitivity Kit (Cat. No. 53040) with 15 ug of chromatin from a human medulloblastoma cell line and 4 µg of antibody. ChIP DNA was sequenced on the Illumina HiSeq and 12 million sequence tags were mapped to identify Histone H4ac (pan-acetyl) binding sites. The image shows binding across a region of chromosome 12.



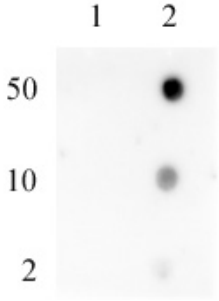
Histone H4ac (pan-acetyl) antibody (pAb) tested by ChIP.
Chromatin IP performed using the ChIP-IT® Express Kit (Catalog No. 53008) and HeLa Chromatin (1.5 x 10^6 cell equivalents per ChIP) using 3 µg of Histone H4 pan-acetyl antibody or the equivalent amount of rabbit IgG as a negative control. Real-time, quantitative PCR (RT-qPCR) was performed on DNA purified from each of the ChIP reactions using a primer pair specific for the indicated gene. Data are presented as Fold Enrichment of the ChIP antibody signal versus the negative control IgG using the ddCT method.



Histone H4ac (pan-acetyl) antibody (pAb) tested by immunofluorescence.
HeLa cells stained at 2 µg/ml with Histone H4 pan-acetyl antibody. Top panel: Histone H4 pan-acetyl antibody. Middle panel: DAPI. Bottom panel: merge.



Histone H4ac (pan-acetyl) antibody (pAb) tested by Western blot.
HeLa nuclear extract (20 µg per lane) probed with Histone H4 pan-acetyl (1 µg per ml). Lane 1: no treatment. Lane 2: cells treated with sodium butyrate.



Histone H4ac (pan-acetyl) antibody (pAb) tested by dot blot analysis.
Dot blot analysis was used to confirm the specificity of Histone H4 pan-acetyl antibody for acetyl histone H4. Column 1: unacetylated histone H4 peptide. Column 2: acetylated peptide corresponding to immunogen. Peptides were spotted onto PVDF and probed with Histone H4 pan-acetyl antibody at 1 µg /ml. The amount of peptide (picomoles) spotted is indicated next to each row.