Histone H4ac (pan-acetyl) antibody (pAb)

Catalog Nos: 39243, 39043, 39244

RRID: AB_2793201
Isotype: Serum
Application(s): ChIP, DB, ICC, IF, WB
Reactivity: Human, Mouse, Wide Range Predicted

Volumes: 100 µl, 50 µl, 10 µl
Purification: None
Host: Rabbit
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.

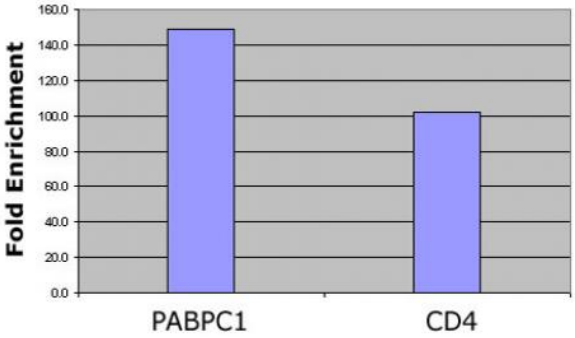
Immunogen: This Histone H4 pan-acetyl antibody was raised against a peptide containing the amino terminal region of *Tetrahymena* histone H2A acetylated at multiple lysines. (The immunogen has a high degree of homology to mammalian histone H4, so the antibody recognizes acetylated histone H4 in HeLa extracts).

Buffer: Rabbit serum containing 30% glycerol and 0.035% sodium azide. Sodium azide is highly toxic. For your convenience, an IgG version (Catalog No. 39925) of this antibody that was purified by Protein A Chromatography is also available.

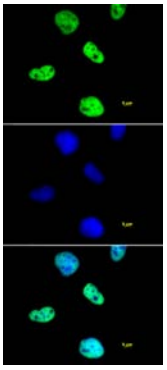
Application Notes:
Applications Validated by Active Motif:
ChIP: 5 - 10 µl per ChIP
ICC/IF: 1:500 - 1:2,000 dilution
WB: 1:1,000 - 1:10,000 dilution

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.

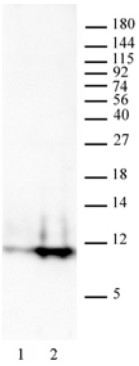
This product is for research use only and is not for use in diagnostic procedures.



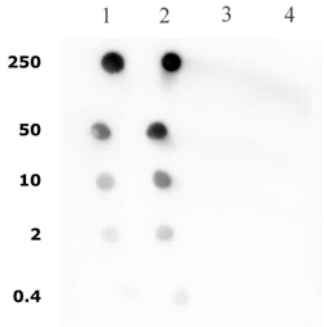
Histone H4 pan-acetyl antibody (pAb) tested by ChIP analysis.
Chromatin IP performed using the ChIP-IT® Express Kit (Catalog No. 53008) and HeLa Chromatin (1.5 x 10^6 cell equivalents per ChIP) using 2 µl of Histone H4 pan-acetyl pAb or the equivalent amount of rabbit IgG as a negative control. Real 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 H4 pan-acetyl antibody (pAb) tested by immunofluorescence.
Staining of HeLa cells with Histone H4 pan-acetyl pAb (1:1,000 dilution, top panel) and DAPI (middle panel), and a merge of both images (bottom panel).



Histone H4 pan-acetyl antibody (pAb) tested by Western blot.
HeLa acid extract (20 µg /lane) probed with Histone H4 pan-acetyl polyclonal antibody (1:20,000 dilution).
Lane 1: Untreated cells.
Lane 2: Cells treated with sodium butyrate.



Histone H4 pan-acetyl antibody (pAb) tested by dot blot analysis.
Dot blot analysis was used to confirm the specificity of Histone H4 pan-acetyl pAb for acetyl histone H4. Decreasing amounts of acetylated peptides corresponding to the immunogen, a related sequence, as well as unacetylated histone H4 peptides were spotted onto PVDF and probed with the antibody at a 1:10,000 dilution.
Lane 1: AGG[acK]GG[acK]GMG[acK]VGA[acK]RHSC
Lane 2: AGG[acK]GG[acK]GG[acK]GG[acK]GG[acK]GGC
Lane 3: SGRGKGGKGLC
Lane 4: GKGGAKRHRKC