Histone H4K5ac antibody (pAb)

Catalog Nos: 39699, 39700

RRID: AB_2793311
Isotype: IgG
Application(s): ChIP, ChIP-Seq, DB, IF, WB
Reactivity: Human, Mouse, Wide Range Predicted

Quantities: 100 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. Histone H4 molecules acetylated at Lys5 or Lys8 are distributed in overlapping, but non-identical, islands throughout the euchromatic chromosome arms.

Immunogen: This Histone H4 acetyl Lys5 antibody was raised against a peptide including acetyl-lysine 5 of human histone H4.

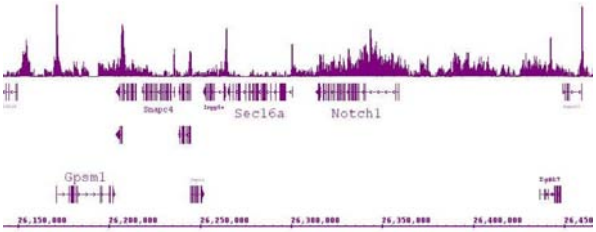
Buffer: Purified IgG in PBS (pH 7.5) with 30% glycerol and 0.035% sodium azide. Sodium azide is highly toxic. For your convenience, an unpurified serum version (Catalog No. 39583) of this antibody is also available.

Application Notes:
Applications Validated by Active Motif:
ChIP: 5 µg per ChIP
ChIP-Seq: 5 µg each
WB: 0.5 - 2 µg/ml dilution
IF: 1:500 dilution

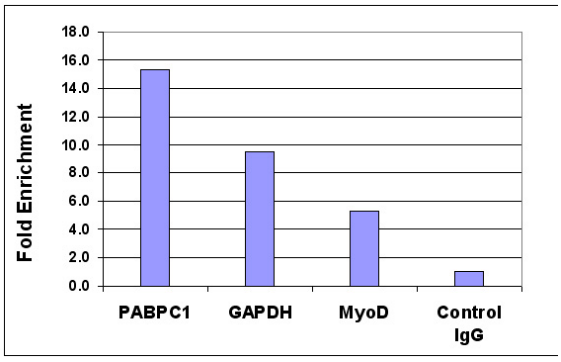
ChIP-Seq validation was performed by Active Motif's Epigenetics Services; the complete data set is available in the UCSC Genome Browser by clicking here.

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.

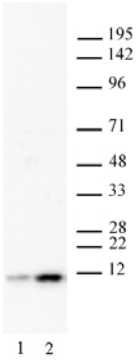
This product is for research use only and is not for use in diagnostic procedures.



Histone H4K5ac 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 mouse hippocampus cells and 4 µg of antibody. ChIP DNA was sequenced on the Illumina HiSeq and 10 million sequence tags were mapped to identify Histone H4K5ac binding sites. The image shows binding across a region of chromosome 2. You can view the complete data set in the UCSC Genome Browser, starting at this specific location, here.

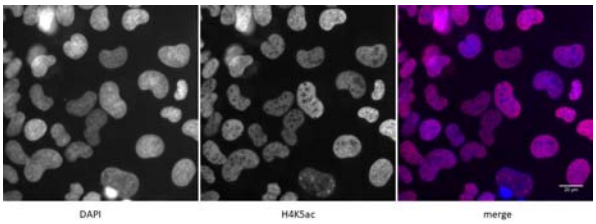


Histone H4K5ac antibody (pAb) tested by ChIP analysis.
Chromatin IP performed using the ChIP-IT® Express Kit (Catalog No. 53008) and HeLa Chromatin (1.5 x 10^6 cell equivalents per ChIP) using 5 µg of Histone H4 acetyl Lys5 pAb or the equivalent amount of rabbit IgG as a negative control. Real time, 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 H4K5ac antibody (pAb) tested by Western blot.
HeLa nuclear extract (20 µg per lane) probed with Histone H4 acetyl Lys5 polyclonal antibody (0.5 µg per ml).
Lane 1: No treatment.
Lane 2: Cells treated with sodium butyrate.

Histone H4K5ac antibody (pAb) tested by dot blot analysis.
Dot blot analysis was used to confirm the specificity of Histone H4K5ac antibody for acetyl Lys5 histone H4. Acetylated peptides corresponding to the immunogen and related peptides were spotted onto PVDF and probed with the antibody at a dilution of 1 µg per ml. The amount of peptide (picomoles) spotted is indicated next to each row.
Lane 1: H4K5ac peptide. Lane 2: unmodified H4K5 peptide. Lane 3: H4K8ac peptide. Lane 4: unmodified H4K8 peptide. Lane 5: H4K12ac peptide. Lane 6: unmodified H4K12 peptide. Lane 7: H4K16ac peptide. Lane 8: unmodified H4K16 peptide.



Detection of H4K5ac by immunofluorescence.
U2OS cells were stained with H4K5ac antibody at a dilution of 1:500. Left panel: DAPI. Middle panel: H4K5ac antibody staining. Right panel: merge.