

Histone H4K5ac antibody (pAb)

Catalog Nos: 39583, 39584

RRID: AB_2793267

Isotype: Serum

Application(s): ChIP, DB, ICC, IF, WB

Reactivity: Human, Mouse, Wide Range Predicted

Volumes: 200 μ l, 10 μ l

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. 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 histone H4.

Buffer: Rabbit serum containing 30% glycerol and 0.035% sodium azide. Sodium azide is highly toxic. For your convenience, an IgG version (Catalog No. 39699) of this antibody that was purified by Protein A Chromatography is also available.

Application Notes:

Applications Validated by Active Motif:

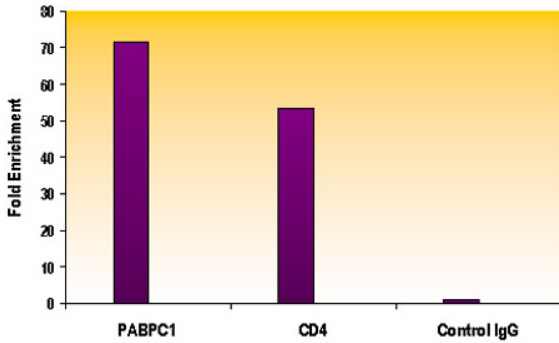
ChIP: 5 - 10 μ l per ChIP

ICC/IF: 1:500 - 1:1,000 dilution

WB: 1:2,500 - 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.

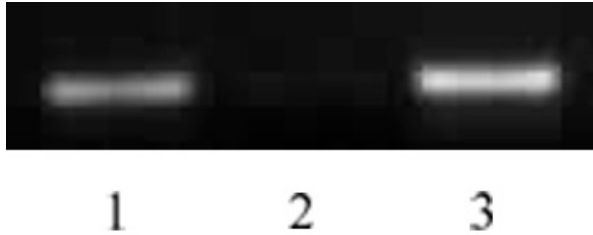


Histone H4 acetyl Lys5 antibody tested by ChIP analysis.

Chromatin IP performed using the ChIP-IT[®] Express Kit (Catalog No. 53008) and HeLa Chromatin (1.5 x 10⁶ cell equivalents per ChIP) using 10 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 H4 acetyl Lys5 antibody tested by ChIP.

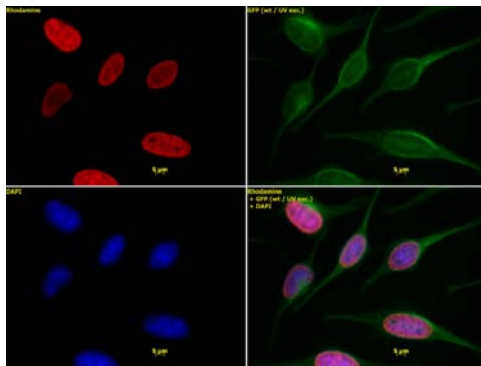
Chromatin IP performed using the ChIP-IT[®] Express Kit (Catalog No. 53008) and 50 µl of Ready-to-ChIP HeLa Chromatin (Catalog No. 53015) per ChIP. Subsequent to the ChIP reaction, DNA was purified from the immunoprecipitated chromatin and a region of the human GAPDH promoter was amplified by PCR.



- Lane 1: PCR input control.
- Lane 2: ChIP using negative control rabbit IgG.
- Lane 3: ChIP using 10 µl of Histone H4 acetyl Lys5 antibody.

Histone H4 acetyl Lys5 antibody tested by immunofluorescence.

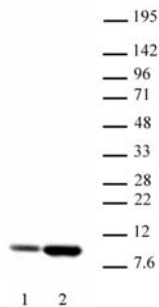
Top left: HeLa cells stained with Histone H4 acetyl Lys5 antibody (1:1,000). Top right: Same cells stained with alpha Tubulin mAb (Clone 5-B-1-2). Bottom left: Stained with DAPI. Bottom right: Merge of all 3 images.



Histone H4 acetyl Lys5 antibody tested by Western blot.

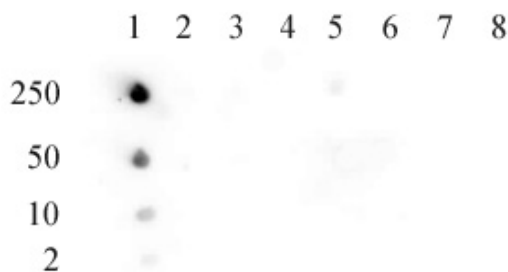
HeLa nuclear extract (20 µg per lane) probed with Histone H4 acetyl Lys5 polyclonal antibody (1:5,000).

- Lane 1: No treatment.
- Lane 2: Cells treated with sodium butyrate.



Histone H4 acetyl Lys5 antibody tested by dot blot analysis.

Dot blot analysis was used to confirm the specificity of Histone H4 acetyl Lys5 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 1:5,000. The amount of peptide (picomoles) spotted is indicated next to each row.



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Lane 1: acetyl-Lys5 peptide. Lane 2: unmodified Lys5 peptide.