Histone H4K16ac antibody (pAb)

Catalog Nos: 39929, 39930
RRID: AB_2753164
Isotype: IgG
Application(s): ChIP, DB, IHC, WB
Reactivity: Budding Yeast, Drosophila, Human, 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. NoRC is a SMARCA5 (SNF2h)-containing chromatin remodeling complex. The bromodomain of TIP5, the large subunit of NoRC, interacts with acetylated Histone H4 Lys16, (H4K16ac) and cooperates with an adjacent PHD finger to recruit histone deacetylases and DNA methyltransferases to rDNA, leading to the silencing of rDNA.

Immunogen: This Histone H4 acetyl Lys16 antibody was raised against a peptide including acetyl-lysine 16 of histone H4.

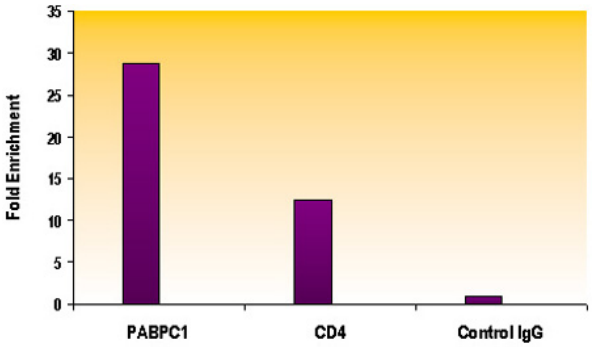
Buffer: Purified IgG in PBS (pH 7.5) with 30% glycerol and 0.035% sodium azide. Sodium azide is highly toxic. For your convenience, an unpurified serum version (Catalog No. 39167) of this antibody is also available.

Application Notes:
Applications Validated by Active Motif:
ChIP: 10 µg per ChIP
WB*: 1 - 2 µg/ml dilution

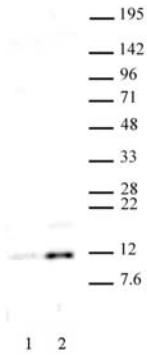
*Note: many chromatin-bound proteins are not soluble in a low salt nuclear extract and fractionate to the pellet. Therefore, we recommend a High Salt / Sonication Protocol when preparing nuclear extracts for Western Blot.

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.

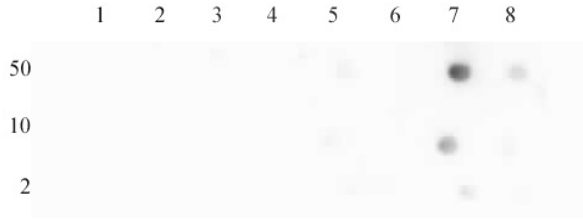
This product is for research use only and is not for use in diagnostic procedures.



Histone H4 acetyl Lys16 antibody 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 10 µg of Histone H4 acetyl Lys16 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 Lys16 antibody (pAb) tested by Western blot.
HeLa nuclear extract (20 µg per lane) probed with Histone H4 acetyl Lys16 antibody (1 µg per ml). Lane 1: no treatment. Lane 2: cells treated with sodium butyrate.



Histone H4 acetyl Lys16 antibody (pAb) tested by dot blot analysis.
Dot blot analysis was used to confirm the specificity of Histone H4 acetyl Lys16 antibody for acetyl Lys16 histone H4. Acetylated peptides corresponding to the immunogen and related peptides were spotted onto PVDF and probed with Histone H4 acetyl Lys16 antibody at a dilution of 1 µg/ml. The amount of peptide (picomoles) spotted is indicated next to each row. Lane 1: acetyl-Lys5 peptide. Lane 2: unmodified Lys5 peptide. Lane 3: acetyl-Lys8 peptide. Lane 4: unmodified Lys8 peptide. Lane 5: acetyl-Lys12 peptide. Lane 6: unmodified Lys12 peptide. Lane 7: acetyl-Lys16 peptide. Lane 8: unmodified Lys16 peptide.