Histone H3K23ac antibody (pAb)

Catalog Nos: 39131, 39132
RRID: AB_2793165
Isotype: Serum
Application(s): ChIP, DB, ICC, IF, IP, WB
Reactivity: Human, Wide Range Predicted

Volumes: 100 µl, 10 µl
Purification: None
Host: Rabbit
Molecular Weight: 17 kDa

Background: Histone H3 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). 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; these modifications 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. In estrogen-responsive genes, histone H3 Lys18 is acetylated by CBP/p300 following estrogen stimulation, leading to acetylation of histone H3 Lys23 and methylation of Arg17 by CARM1. These events lead to transcriptional activation of the genes.

Immunogen: This Histone H3 acetyl Lys23 antibody was raised against a peptide including acetyl-lysine 23 of histone H3.

Buffer: Rabbit serum containing 30% glycerol and 0.035% sodium azide. Sodium azide is highly toxic.

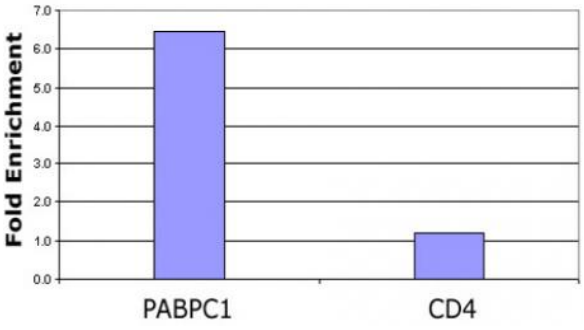
Application Notes:
Applications Validated by Active Motif:
ChIP: 10 µl per ChIP
ICC/IF: 1:500 - 1:1,000 dilution
WB*: 1:1,000 - 1:5,000 dilution

For optimal results in Western blotting, primary antibody incubations should be performed overnight at 4°C. Individual optimization may be required.

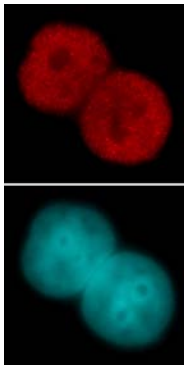
*Note: many chromatin-bound proteins are not soluble in a low salt nuclear extract and fractionate to the pellet. Therefore, we recommend a High Salt / Sonication Protocol when preparing nuclear extracts for Western Blot.

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.

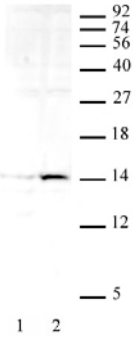
This product is for research use only and is not for use in diagnostic procedures.



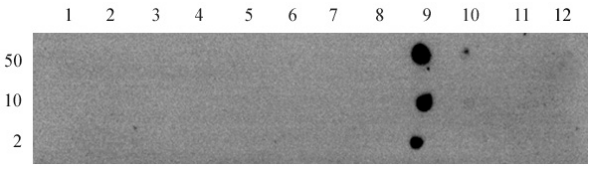
Histone H3 acetyl Lys23 pAb tested by ChIP analysis.
Chromatin IP performed using the ChIP-IT® Express Kit (Catalog No. 53008) and HeLa Chromatin (1.5 x 10^6 cell equivalents per ChIP) using 10 µl of Histone H3 acetyl Lys23 pAb or the equivalent amount of rabbit IgG as a negative control. Real time, 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 H3 acetyl Lys23 pAb tested by immunofluorescence.
Staining of HeLa cells with Histone H3 acetyl Lys23 pAb (1:500 dilution, top panel) and DAPI (bottom panel).



Histone H3 acetyl Lys23 pAb tested by Western blot.
HeLa acid extract probed with Histone H3 acetyl Lys23 polyclonal antibody (1:5,000 dilution).
Lane 1: No treatment.
Lane 2: Cells treated with sodium butyrate.



Histone H3K23ac pAb tested by dot blot analysis.
Dot blot analysis was used to confirm the specificity of Histone H3K23ac antibody for acetyl Lys23 histone H3. Acetylated peptides corresponding to the immunogen and related peptides were spotted onto PVDF and probed with the antibody at a dilution of 1:2,000. The amount of peptide (picomoles) spotted is indicated next to each row.
Lane 1: H3K4ac peptide. Lane 2: Unmodified H3K4 peptide. Lane 3: H3K9ac peptide. Lane 4: Unmodified H3K9 peptide. Lane 5: H3K18ac peptide. Lane 6: Unmodified H3K18 peptide. Lane 7: H3K23ac peptide. Lane 8: Unmodified H3K23 peptide. Lane 9: H3K27ac peptide. Lane 10: Unmodified H3K27 peptide.