Histone H3K9ac antibody (pAb)

Catalog Nos: 39137, 39038, 39138
RRID: AB_2561017
Isotype: Serum
Application(s): ChIP, ChIP-Seq, DB, IF, WB
Reactivity: Human, Mouse, Wide Range Predicted

Volumes: 100 µl, 50 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. Histone H3 Lys9 can also be mono-, di- or trimethylated. The methylation of this residue is often associated with transcriptional repression. However, acetylation of histone H3 Lys9 is associated with transcriptional activation of the genes.

Immunogen: This Histone H3 acetyl Lys9 antibody was raised against a peptide including acetyl-lysine 9 of histone H3.

Buffer: Rabbit serum containing 30% glycerol and 0.035% sodium azide. Sodium azide is highly toxic. For your convenience, an IgG version (Catalog No. 39917) of this antibody that was purified by Protein A Chromatography is also available.

Application Notes:
Applications Validated by Active Motif:
ChIP: 10 µl per ChIP
ChIP-Seq: 5 µl each
WB*: 1:1,000 - 1:2,000 dilution

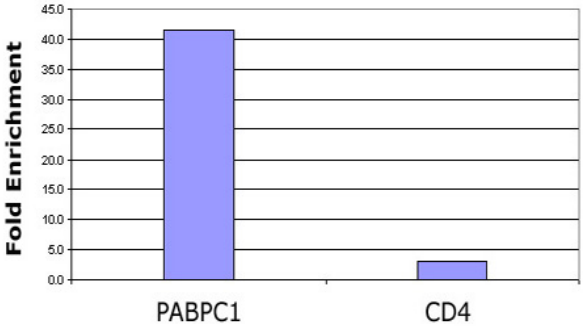
*Note: many chromatin-bound proteins are not soluble in a low salt nuclear extract and fractionate to the pellet. Therefore, we recommend a High Salt / Sonication Protocol when preparing nuclear extracts for Western Blot.

The modENCODE and NIH Roadmap Epigenomics Mapping Consortiums have implemented rigorous standardization criteria for all assays and reagents to be used. As part of this initiative, antibody specificity testing and the ability of the antibodies to work in ChIP-Seq were assessed in a large-scale study. This Histone H3 acetyl Lys9 antibody was validated for ChIP-Seq in the study (see references).

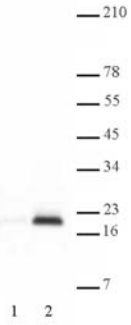
For Histone H3K9ac, we also offer AbFlex® Histone H3K9ac Recombinant Antibody (rAb). For details, see Catalog No. 91103.

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.

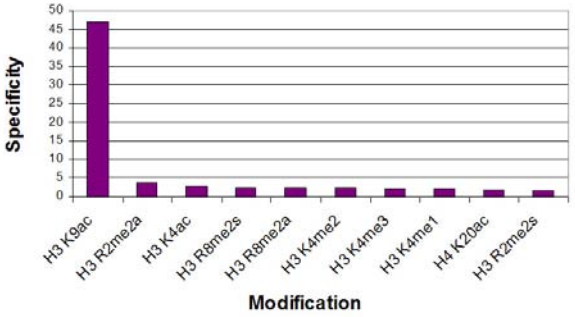
This product is for research use only and is not for use in diagnostic procedures.



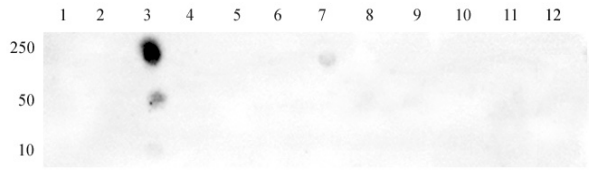
Histone H3 acetyl Lys9 antibody tested by ChIP analysis.
Chromatin IP performed using the ChIP-IT® Express Kit (Catalog No. 53008) and HeLa Chromatin (1.5 x 10^6 cell equivalents per ChIP) using 10 µl of Histone H3 acetyl Lys9 antibody or the equivalent amount of rabbit IgG as a negative control. Real 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 Lys9 antibody tested by Western blot.
HeLa acid extract probed with Histone H3 acetyl Lys9 polyclonal antibody (1:2,000 dilution).
Lane 1: No treatment.
Lane 2: Cells treated with sodium butyrate.



Histone H3 acetyl Lys9 antibody specificity tested by peptide array analysis.
Peptide array analysis was used to confirm the specificity of this antibody for its intended modification. Histone H3 acetyl Lys9 antibody was applied at a dilution of 1:3,000 to Active Motif's MODified™ Histone Peptide Array (Catalog No. 13001). The arrays were scanned with ArrayAnalysis Software 7 and the results plotted. Specificity data is shown for the most reactive peptides.



Histone H3 acetyl Lys9 antibody tested by dot blot analysis.
Dot blot analysis was used to confirm the specificity of Histone H3 acetyl Lys9 antibody for acetyl Lys9 histone H3. Acetylated peptides corresponding to the immunogen and related peptides were spotted onto PVDF and probed with the antibody at a dilution of 1:1,000. The amount of peptide (picomoles) spotted is indicated next to each row.
Lane 1: Acetyl-Lys4 peptide. Lane 2: Unmodified Lys4 peptide. Lane 3: Acetyl-Lys9 peptide. Lane 4: Unmodified Lys9 peptide. Lane 5: Acetyl-Lys14 peptide. Lane 6: Unmodified Lys14 peptide. Lane 7: Acetyl-Lys18 peptide. Lane 8: Unmodified Lys18 peptide. Lane 9: Acetyl-Lys23 peptide. Lane 10: Unmodified Lys23 peptide. Lane 11: Acetyl-Lys27 peptide. Lane 12: Unmodified Lys27 peptide.