Histone H3K9ac antibody (pAb)

Catalog Nos: 39917, 39017, 39918
RRID: AB_2616593
Isotype: IgG
Application(s): ChIP, ChIP-Seq, DB, ICC, IF, WB
Reactivity: Human, Mouse, Wide Range Predicted

Quantities: 100 µg, 50 µg, 10 µg
Purification: Protein A Chromatography
Host: Rabbit
Concentration: 1 µg/µl
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: 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. 39137) of this antibody is also available.

Application Notes:
Validated Applications:
ChIP: 10 µg per ChIP
ChIP-Seq: 3 µg each
ICC/IF: 2 µg/ml dilution
WB*: 0.2 - 2 µg/ml dilution

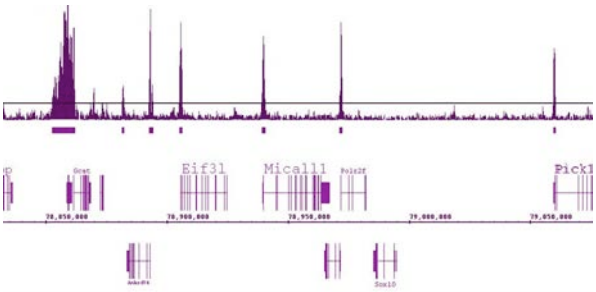
*Note: many chromatin-bound proteins are not soluble in a low salt nuclear extract and fractionate to the pellet; therefore, we recommend a High Salt & Sonication Protocol when preparing nuclear extracts for Western Blot. Visit www.activemotif.com to download the protocol.

NGS-QC® certification. This antibody has been processed by the NGS-QC® generator. For additional details, click here.

Published Applications:
ChIP
WB
See references for more information. Individual optimization may be required.

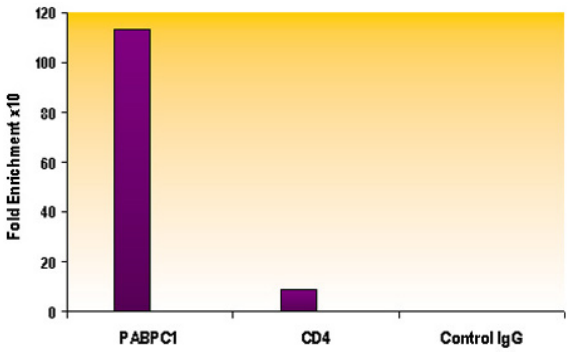
Storage and Guarantee: Some products may be shipped at room temperature. This will not affect their stability or performance. Avoid repeated freeze/thaw cycles by aliquoting items into single-use fractions for storage at -20°C for up to 2 years. Keep all reagents on ice when not in storage. This product is guaranteed for 12 months from date of receipt.

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



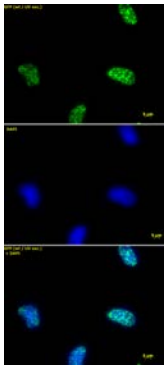
Histone H3K9ac antibody (pAb) tested by ChIP-Seq.

ChIP was performed using the ChIP-IT® High Sensitivity Kit (Cat. No. 53040) with 30 ug of chromatin from mouse liver. ChIP DNA was sequenced on the Illumina GA II and 25 million sequence tags were mapped to identify H3K9Ac binding across the genome. The image shows a 1.5 million base pair region on chromosome 15. H3K9Ac shows promoter localization at many genes and broader binding near the Gcat gene.



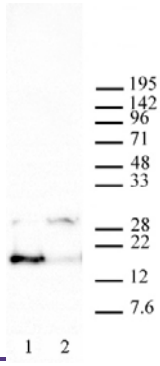
ChIP of Histone H3K9ac antibody (pAb)

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 3 µg 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.



Immunofluorescence stain of Histone H3K9ac antibody (pAb).

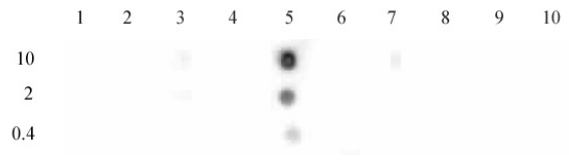
HeLa cells stained at 2 µg/ml with Histone H3 acetyl Lys9 antibody. Top panel: Histone H3 acetyl Lys9 antibody. Middle panel: DAPI. Bottom panel: merge.



Western blot of Histone H3K9ac antibody (pAb).

HeLa nuclear extract (20 µg per lane) probed with Histone H3 acetyl Lys9 antibody (1 µg per ml).

Lane 1: cells treated with sodium butyrate. Lane 2: no treatment.



Histone H3K9ac antibody (pAb) 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 Histone H3 acetyl Lys9 antibody at a dilution of 1 µg/ml. The amount of peptide (picomoles) spotted is indicated next to each row.

Lane 1: histone H3 acetyl-Lys4 peptide. Lane 2: unmodified Lys4 peptide. Lane 3: acetyl-Lys18 peptide. Lane 4: unmodified Lys9/14/18 peptide. Lane 5: acetyl-Lys9 peptide. Lane 6: acetyl-Lys14 peptide. Lane 7: acetyl-Lys18 peptide. Lane 8: acetyl-Lys23 peptide. Lane 9: acetyl-Lys27 peptide. Lane 10: unmodified Lys27 peptide.