

Histone H3ac (pan-acetyl) antibody (pAb)

Catalog Nos: 39139, 39040, 39140

RRID: AB_2687871

Isotype: Serum

Application(s): ChIP, ChIP-Seq, DB, WB

Reactivity: Human, 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). 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. Acetylation of histone H3 occurs at several different lysine positions in the histone tail, and is performed by Histone Acetyltransferases (HATs) such as CBP/p300. Acetylation of histones is often associated with transcriptional activation.

Immunogen: This Histone H3 acetyl antibody was raised against a peptide including acetyl-lysines contained in the N-terminal tail 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. 61637) of this antibody that was purified by Protein A Chromatography is also available.

Application Notes:

Applications Validated by Active Motif:

ChIP-Seq: 5 µl per ChIP

ChIP: 10 µl per ChIP

WB*: 1:500 - 1:5,000 dilution

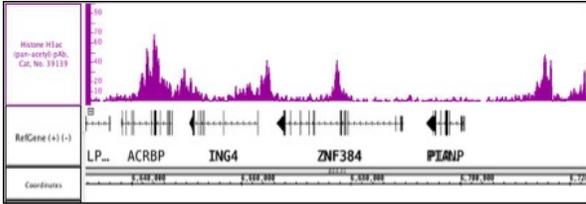
*Note: many chromatin-bound proteins are not soluble in a low salt nuclear extract and fractionate to the pellet. Therefore, we recommend a High Salt / Sonication Protocol when preparing nuclear extracts for Western blot.

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 H3ac (pan-acetyl) antibody (pAb) tested by ChIP-Seq

Chromatin immunoprecipitation (ChIP) was performed using the ChIP-IT® High Sensitivity Kit (Cat. No. 53040) with 25 µg of Human iPSC cell chromatin and 5 µl of Histone H3ac (pan-acetyl) antibody. ChIP DNA was sequenced on the Illumina NextSeq and 23 million sequence tags were mapped to identify Histone H3ac (pan-acetyl) binding sites on chromosome 12.

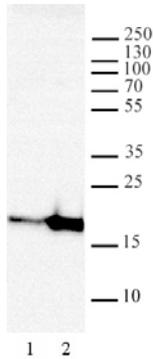


Histone H3ac (pan-acetyl) antibody (pAb) tested by Western blot.

Detection of acetylated Histone H3 by Western blot analysis using 20 µg HeLa acid extracts and Histone H3 acetyl antibody at a 1:2,000 dilution.

Lane 1: Acid extract of untreated HeLa cells.

Lane 2: Acid extract of HeLa cells treated with sodium butyrate.



Histone H3ac (pan-acetyl) antibody (pAb) tested by dot blot analysis.

Dot blot analysis was used to confirm the specificity of Histone H3ac antibody. 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 (50 picomoles).

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.

