

Histone H3K27ac antibody (pAb)

Catalog Nos: 39135, 39336, 39136

RRID: AB_2614979

Isotype: Serum

Application(s): ChIP, ChIP-Seq, CUT&Tag, DB, WB

Reactivity: Budding Yeast, 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 histone H3 at Lys27 is associated with transcriptional activation. Histone H3K27 can also be mono-, di- or trimethylated by different histone methyltransferases, such as EZH2 or NSD3. While histone methylation can be associated with transcriptional activation or repression, methylation of Lysine 27 of histone H3 is mainly associated with transcriptional repression.

Immunogen: This Histone H3 acetyl Lys27 antibody was raised against a peptide including acetyl-lysine 27 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. 39133) of this antibody that was purified by Protein A Chromatography is also available.

Application Notes:

Applications Validated by Active Motif:

ChIP: 3 µl per ChIP

ChIP-Seq: 5 µl each

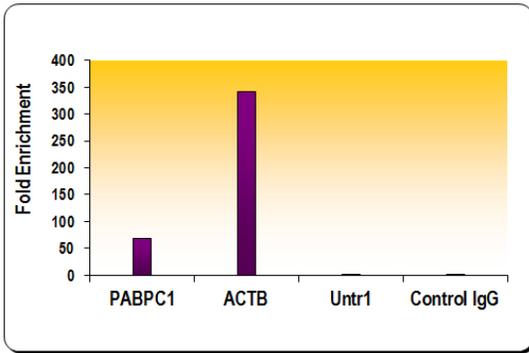
WB*: 1:1,000 - 1:5,000 dilution

CUT&Tag: 1 µl per 50 µl reaction

*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.

For Histone H3K27ac, we also offer AbFlex® Histone H3K27ac Recombinant Antibody (rAb). For details, see Catalog No. 91193.

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 H3K27ac antibody (pAb) tested by ChIP

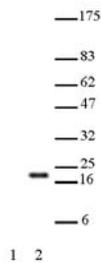
Chromatin IP performed using the ChIP-IT[®] Express Kit (Catalog No. 53008) and HeLa Chromatin (2.1×10^6 cell equivalents per ChIP) using 3 μ l of Histone H3 acetyl Lys27 antibody or the equivalent amount of rabbit IgG as a negative control. Real time, quantitative PCR (RT-qPCR) was performed on DNA purified from each of the ChIP reactions using primer pairs specific for the indicated gene as well as a negative control primer pair. Data are presented as Fold Enrichment of the ChIP antibody signal versus the negative control IgG using the ddCT method.

Histone H3K27ac antibody (pAb) tested by Western blot.

HeLa acid extract probed with Histone H3 acetyl Lys27 polyclonal antibody (1:1,000 dilution).

Lane 1: No treatment.

Lane 2: Cells treated with sodium butyrate.



Histone H3K27ac antibody (pAb) tested by dot blot analysis.

Dot blot analysis was used to confirm the specificity of Histone H3K27ac antibody (pAb) for acetyl Lys27 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: H3K37ac. Lane 2: H3K36ac. Lane 3: H3K9ac. Lane 4: H3K14ac. Lane 5: H3K18ac. Lane 6: H3K23ac. Lane 7: unmod H3K27. Lane 8: H3K27ac. Lane 9: H4K5ac. Lane 10: H4K8ac. Lane 11: H4K12ac. Lane 12: H4K16ac.

