Histone H2BK46ac antibody (pAb)

Catalog Nos: 39571, 39572
RRID: AB_2793263
Isotype: Serum
Application(s): ChIP, WB
Reactivity: Human, Wide Range Predicted

Volumes: 200 µl, 10 µl
Purification: None
Host: Rabbit
Molecular Weight: 15 kDa

Background: Histone H2B 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. Histone H2A and Histone H2B are acetylated in bulk chromatin by p300 and form acetylated Histone H2A/Histone H2B heterodimers. When DNA associates with intact core histone octamers that contain acetylated H2A/H2B dimers, the inhibition of transcriptional initiation significantly decreases, indicating that acetylation of their lysine residues may mediate transcription.

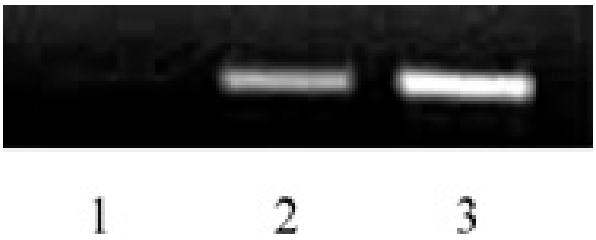
Immunogen: This Histone H2B acetyl Lys46 antibody was raised against a peptide containing acetyl-lysine 46 of human histone H2B.

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

Application Notes:
Applications Validated by Active Motif:
ChIP: 5 - 10 µl per ChIP
WB: 1:4,000 - 1:10,000 dilution

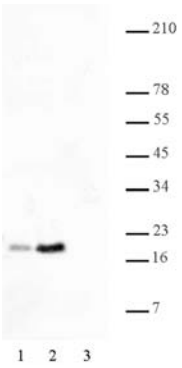
Storage and Guarantee: Some products may be shipped at room temperature. This will not affect their stability or performance. Avoid repeated freeze/thaw cycles by aliquoting items into single-use fractions for storage at -20°C for up to 2 years. Keep all reagents on ice when not in storage. This product 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 H2B acetyl Lys46 pAb tested by ChIP.
Chromatin IP performed using the ChIP-IT® Express Kit (Catalog No. 53008) and 50 µl of Ready-to-ChIP HeLa Chromatin (Catalog No. 53015) per ChIP. Subsequent to the ChIP reaction, DNA was purified from the immunoprecipitated chromatin and a region of the human GAPDH promoter was amplified by PCR.

Lane 1: ChIP using negative control rabbit IgG.
Lane 2: ChIP using 10 µl of Histone H2B acetyl Lys46 pAb.
Lane 3: PCR input control.



Histone H2B acetyl Lys46 pAb tested by Western blot.
Acid extract of HeLa cells (20 µg per lane) was probed with Histone H2B acetyl Lys46 polyclonal antibody (1:4,000 dilution).

Lane 1: Untreated cells.
Lane 2: Cells treated with sodium butyrate.
Lane 3: Recombinant Histone H2B (200 ng).

Histone H2B acetyl Lys46 pAb tested by dot blot analysis.
Dot blot analysis was used to confirm the specificity of Histone H2B acetyl Lys46 pAb for acetyl Lys46 histone H2B. Decreasing amounts of acetylated peptides corresponding to the immunogen and related sequences were spotted onto PVDF and probed with the antibody at 1:4,000.

Lane 1: acetyl Lys46 histone H2B peptide.
Lane 2: unmodified Lys46 histone H2B peptide.

No detection of peptides (acetylated) corresponding to lysine 9, 14, 18, 23, 27, and 56 of Histone H3 was observed with Histone H2B acetyl Lys46 pAb.
In addition, no detection of peptides (acetylated) corresponding to lysine 5, 15, 16, and 120 of Histone H2B was observed with Histone H2B acetyl Lys46 pAb.