Histone H4K8ac antibody (pAb)

Catalog Nos: 61103, 61104

RRID: AB_2793506
Isotype: IgG
Application(s): ChIP, ChIP-Seq, DB, ICC, IF, WB
Reactivity: Human, Mouse, Wide Range Predicted

Quantities: 100 µg, 10 µg
Purification: Protein A Chromatography
Host: Rabbit
Concentration: 1 µg/µl
Molecular Weight: 8 kDa

Background: Histone H4 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. The chromatin-remodeling complex SWI/SNF is recruited to promoters through the interaction of the bromodomain of the protein BRG1, belonging to the SWI/SNF complex, and CBP-acetylated histone H4 Lysine 8, leading to a chromatin remodeling.

Immunogen: This Histone H4 acetyl Lys8 antibody was raised against a peptide containing acetyl Lys8 of human Histone H4.

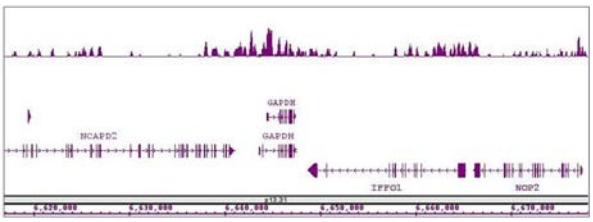
Buffer: Purified IgG in PBS with 30% glycerol and 0.035% sodium azide. Sodium azide is highly toxic.

Application Notes:
Applications Validated by Active Motif:
ChIP: 5 - 10 µg per ChIP
ChIP-Seq: 5 - 10 µg each
ICC/IF: 1 µg/ml dilution
WB*: 0.1 - 1 µg/ml dilution

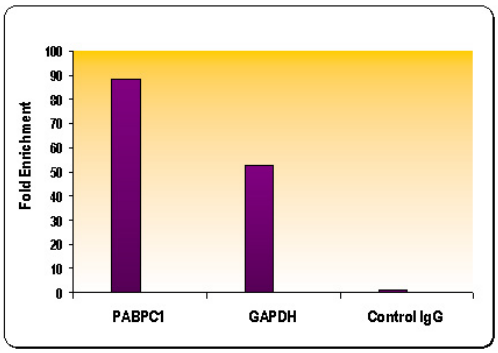
*Note: many chromatin-bound proteins are not soluble in a low salt nuclear extract and fractionate to the pellet. Therefore, we recommend a High Salt / Sonication Protocol when preparing nuclear extracts for Western Blot.

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.

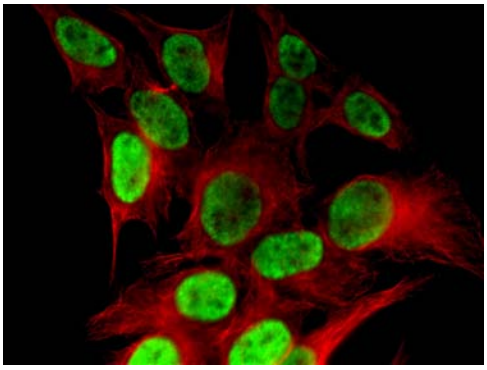
This product is for research use only and is not for use in diagnostic procedures.



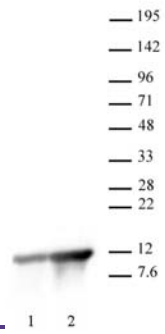
Histone H4K8ac antibody (pAb) tested by ChIP-Seq.
ChIP was performed using the ChIP-IT® High Sensitivity Kit (Cat. No. 53040) with 30 ug of chromatin from a human medulloblastoma cell line and 4 µg of antibody. ChIP DNA was sequenced on the Illumina HiSeq and 19 million sequence tags were mapped to identify Histone H4K8ac binding sites. The image shows binding across a region of chromosome 12.



Histone H4K8ac antibody (pAb) tested by Chromatin IP.
ChIP performed using HeLa Chromatin (1.5 x 10^6 cell equivalents per ChIP) and 10 µg of Histone H4 acetyl Lys8 antibody (pAb) 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 either the PABPC1 gene or the GAPDH gene. Data are presented as Fold Enrichment of the ChIP antibody signal versus the negative control IgG using the ddCT method.



Histone H4K8ac antibody (pAb) tested by immunofluorescence.
HeLa cells stained with Histone H4K8ac antibody (green) at a 1 ug/ml dilution. Tubulin staining was done with our alpha Tubulin antibody, catalog no.39527 (red) at a 1:1,000 dilution.



Histone H4K8ac antibody (pAb) tested by Western Blot.
HeLa nuclear extract (20 µg per lane) probed with the Histone H4 acetyl Lys8 antibody (0.5 µg per ml). Lane 1: no treatment. Lane 2: cells treated with sodium butyrate.

Histone H4K8ac antibody (pAb) tested by Dot blot.
Dot blot analysis was used to confirm the specificity of the acetyl Lys8 histone H4 antibody. Acetylated peptides corresponding to the immunogen and related peptides were spotted onto PVDF and probed with the antibody at a dilution of 0.1 µg/ml. The amount of peptide (picomoles) spotted is indicated next to each row.

Lane 1: acetyl-Lys5 peptide. Lane 2: acetyl-Lys8 peptide. Lane 3: acetyl-Lys12 peptide. Lane 4: acetyl-Lys16 peptide. Lane 5: acetyl-Lys20 peptide.