Histone H3K56ac antibody (mAb)

Catalog Nos: 61061, 61062
RRID: AB_2793492
Clone: 12.1
Isotype: IgG1
Application(s): ChIP, DB
Reactivity: Budding Yeast, Fission Yeast, Human, Wide Range Predicted

Quantities: 100 µg, 10 µg
Purification: Protein A Chromatography
Host: Mouse
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). 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. Histone H3 Lys56 acetylation occurs normally during S phase, but disappears in G_2. This modification persists in presence of DNA damage and also plays a role in nucleosome assembly. Rtt109 was shown to be the major histone acetyltransferase (HAT) for Lys56 acetylation.

Immunogen: This Histone H3 acetyl Lys56 antibody was raised against a peptide containing acetyl-Lys56 of human histone H3.

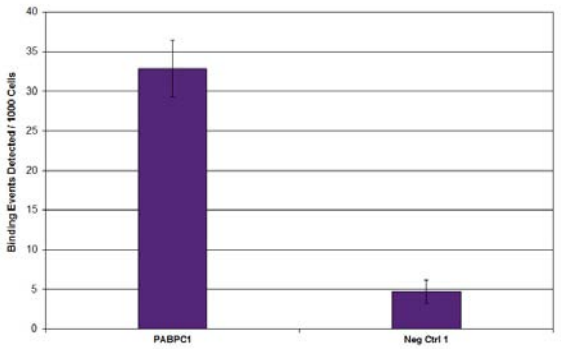
Buffer: Purified IgG in PBS with 30% glycerol and 0.035% sodium azide. Sodium azide is highly toxic.

Application Notes:
Applications Validated by Active Motif:
ChIP: 2 - 10 µg per ChIP
DB: 1 µg/ml

This antibody has not been validated for use in Western blotting. For a Histone H3K56ac antibody recommended for Western blot, see Catalog No. 39281. This antibody is also available as an AbFlex® engineered recombinant antibody. For details on the corresponding AbFlex Recombinant Antibody, see Catalog No. 91127.

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.



Chromatin IP analysis of Histone H3 acetyl Lys56 antibody.
Chromatin IP was performed using Low Cell ChiP Kit Cat# 53084 using 3 µg of Histone H3 acetyl Lys56 mAb. RT-qPCR was performed on ChIP DNA using a primer pair specific for the PABPC1 gene or a negative control region. Data are presented as Binding Events Detected per 1000 Cells using Active Motif's Epigenetic Services normalization scheme which accounts for primer efficiency and the amount of chromatin used in the ChIP reaction.

Histone H3 acetyl Lys56 pAb tested by dot blot analysis.
Dot blot analysis was used to confirm the specificity of Histone H3 acetyl Lys56 pAb for acetyl Lys56 histone H3. Acetylated peptides corresponding to the immunogen and related peptides were spotted onto PVDF and probed with the antibody at 1 µg/ml. The amount of peptide (picomoles) spotted is indicated next to each row.

Lane 1: acetyl-Lys56 peptide. Lane 2: unmodified H3 peptide. Lane 3: acetyl-Lys4 peptide. Lane 4: acetyl-Lys9 peptide. Lane 5: acetyl-Lys14 peptide. Lane 6: acetyl-Lys18 peptide. Lane 7: acetyl-Lys23 peptide. Lane 8: acetyl-Lys27 peptide. Lane 9: acetyl-Lys36 peptide. Lane 10: acetyl-Lys64 peptide.