Histone H3K4me1 antibody (pAb)

Catalog Nos: 61781, 61811, 61782

Isotype: IgG
Application(s): ChIP, ChIP-Seq, WB
Reactivity: Wide Range Predicted

Quantities: 100 µg, 50 µg, 10 µg
Purification: Protein A Chromatography
Host: Rabbit
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. Histone H1 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; these modifications play a major role in regulating gene expression.

The methylation of histones can occur on two different residues: arginine or lysine. Histone methylation can be associated with transcriptional activation or repression, depending on the methylated residue. Lysine 4 of histone H3 can be mono-, di- or trimethylated by different histone methyltransferases (HMTs) such as SET1 or ASH1. Methylation of Lys4 is often associated with transcriptional activation.

Immunogen: This antibody was raised against a peptide containing monomethyl-lysine 4 of Histone H3.

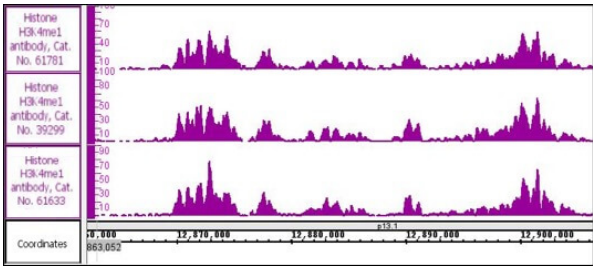
Buffer: Purified IgG in PBS containing 30% glycerol and 0.035% sodium azide.

Application Notes:
Applications Validated by Active Motif:
ChIP-Seq: 5 µg each ChIP
WB*: 0.5 - 2 µg/ml

*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. Visit www.activemotif.com to download the protocol

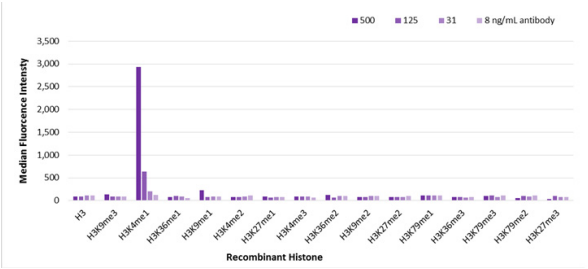
Storage and Guarantee: Some products may be shipped at room temperature. This will not affect their stability or performance. Avoid repeated freeze/thaw cycles by aliquoting items into single-use fractions for storage at -20°C for up to 2 years. Keep all reagents on ice when not in storage. This product 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 H3K4me1 antibody (pAb) tested by ChIP-Seq

Chromatin immunoprecipitation (ChIP) was performed using the ChIP-IT® High Sensitivity Kit (Cat. No. 53040) with 15 µg of HeLa cell chromatin and 5 µg of antibody. ChIP DNA was sequenced on the Illumina NextSeq and 14.1 million sequence tags were mapped to identify Histone H3K4me1 binding sites on chromosome 1. Histone H3K4me1 antibody Cat. No. 61781 is a Protein A purified format generated from our serum format of same antibody, Cat. No. 39299.



Histone H3K4me1 antibody (pAb) tested by Luminex bead-based specificity analysis.

Various recombinant Histone proteins were conjugated to Luminex beads and incubated with varying dilutions of Histone H3K4me1 antibody. Bound antibody was detected with anti-rabbit IgG-PE and read in a MagPix Luminex Instrument.

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Histone H3K4me1 antibody (pAb) tested by Western blot.

20 µg of HeLa cell nuclear extract was run on SDS-PAGE and probed with Histone H3K4me1 antibody at 0.5 µg/ml.