

Histone H3K4me1 antibody (mAb)

Catalog No: 39635

RRID: AB_2793284

Clone: MABI 0302

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

Reactivity: Human, Wide Range Predicted

Quantity: 100 µg

Purification: Protein G Chromatography

Host: Mouse

Isotype: IgG2b

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. The demethylase LSD1 is able to demethylate histone H3 Lys4.

Immunogen: The Histone H3 monomethyl Lys4 antibody was raised against a peptide containing monomethyl lysine 4 of human histone H3.

Buffer: PBS pH 7.5 containing 30% glycerol, 0.3M NaCl, and 0.035% sodium azide. Sodium azide is highly toxic.

Application Notes:

Applications Validated by Active Motif:

ChIP-Seq: 4 µg each

ChIP: 10 µl per ChIP

WB: 1:500 - 1:2,000 dilution

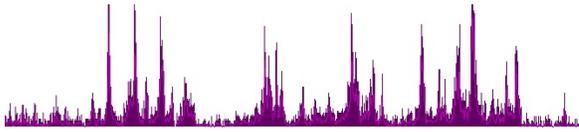
CUT&Tag: 1-2 µg per 50 µl reaction

For Histone H3K4me1, we also offer AbFlex® Histone H3K4me1 Recombinant Antibody (rAb). For details, see Catalog No. 91289.

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.

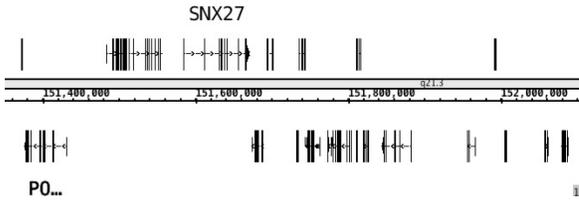
This product is for research use only and is not for use in diagnostic procedures.

This antibody is manufactured by MAB Institute, Inc.



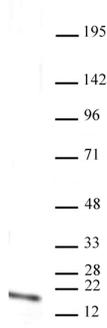
Histone H3K4me1 antibody (mAb) tested by ChIP-Seq

ChIP was performed using 10 µg of chromatin from MCF7 cells and 4 µg of antibody. ChIP DNA was sequenced and 19 million sequence tags were mapped to identify Histone H3K4me1 binding sites.



Histone H3 monomethyl Lys4 antibody (mAb) tested by Western blot.

HeLa acid extract probed with Histone H3 monomethyl Lys4 antibody (mAb) (2 µg/ml dilution).



Histone H3 monomethyl Lys4 antibody (mAb) tested by Dot Blot

Dot Blot analysis was used to confirm the specificity of Histone H3 monomethyl Lys4 antibody (mAb) for monomethyl Lys4 histone H3. Methylated peptides corresponding to the immunogen or related peptides were spotted onto PVDF and probed with antibody at 1 µg/ml. Lane 1: unmodified peptide, Lane 2: Monomethyl Lys4, Lanes 3-8: various negative control peptides.

