

Histone H4K20me1 antibody (mAb)

Catalog Nos: 39727, 39027, 39728

RRID: AB_2615074

Clone: 5E10-D8

Isotype: IgG1 Kappa

Application(s): ChIP, ChIP-Seq, DB, ICC, IF, WB

Reactivity: Human, Wide Range Predicted

Quantities: 100 µg, 50 µg, 10 µg

Purification: Protein A Chromatography

Host: Mouse

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.

Histone 4 lysine 20 (H4K20) can be mono-, di- or trimethylated by different histone methyltransferases such as NSD1 or ASH1. The methylation of this lysine is often associated with transcriptional repression. Monomethylation of histone H4 at lysine 20 is detected on the inactive X chromosome in female mammals and implicated in chromosome condensation.

Immunogen: This Histone H4 monomethyl Lys20 was raised against a synthetic peptide containing monomethyl Lys20 of Histone H4.

Buffer: Purified IgG in 70 mM Tris (pH 8), 105 mM NaCl, 31 mM glycine, 0.07 mM EDTA, 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: 0.5 - 2 µg/ml dilution

DB: 1 µg/ml dilution

ChIP-Seq validation was performed by Active Motif's Epigenetics Services; the complete data set is available in the UCSC Genome Browser by clicking [here](#).

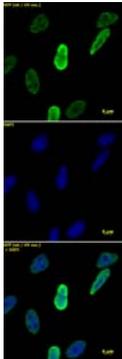
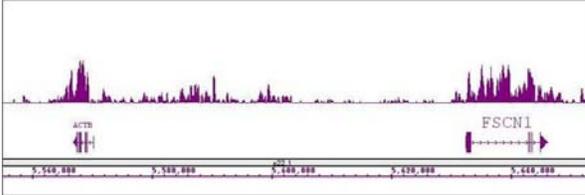
For Histone H4K20me1, we also offer AbFlex[®] Histone H4K20me1 Recombinant Antibody (rAb). For details, see Catalog No. 91291.

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 H4K20me1 antibody (mAb) tested by ChIP-Seq.

ChIP was performed using the ChIP-IT[®] High Sensitivity Kit (Cat. No. 53040) with 20 ug of chromatin from a human medulloblastoma cell line and 4 µg of antibody. ChIP DNA was sequenced on the Illumina HiSeq and 12 million sequence tags were mapped to identify Histone H4K20me1 binding sites. The image shows binding across a region of chromosome 7. You can view the complete data set in the UCSC Genome Browser, starting at this specific location, here.

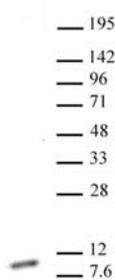


Histone H4 monomethyl Lys20 antibody tested by immunofluorescence.

Detection of Histone H4 monomethyl Lys20 by immunofluorescence. HeLa cells were stained with Histone H4 monomethyl Lys20 antibody at a dilution of 1 µg/ml. Top panel: Histone H4 monomethyl Lys20 antibody staining. Middle panel: DAPI. Bottom panel: merge.

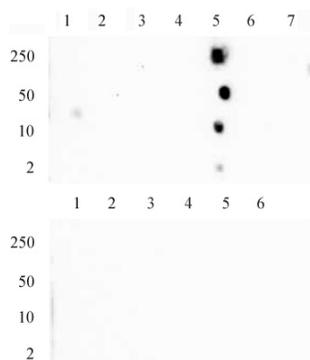
Histone H4 monomethyl Lys20 mAb (Clone 5E10-D8) tested by Western blot.

Detection of Histone H4 monomethyl Lys20 by Western blot. The analysis was performed using nuclear extract of HeLa cells (20 µg) probed with Histone H4 monomethyl Lys20 pAb (Clone 5E10-D8) at a dilution of 2 µg/ml.



Histone H4 monomethyl Lys20 mAb (Clone 5E10-D8) tested by dot blot analysis.

Dot blot analysis was used to confirm the specificity of Histone H4 monomethyl Lys20 mAb (Clone 5E10-D8) for monomethyl-lysine 20 of histone H4. Peptides corresponding to the immunogen and related peptides were spotted onto PVDF and probed with Histone H4 monomethyl Lys20 mAb (Clone 5E10-D8) at 1 µg/ml. The amount of peptide (picomoles) spotted is indicated next to each row.



Top panel: Lane 1: unmodified Lys79 peptide Lane 2: monomethyl Lys79 H4 Lane 3: dimethyl Lys79 H4 Lane 4: trimethyl Lys79 H4 Lane 5: monomethyl K20 H4 Lane 6: dimethyl K20 H4 Lane 7: trimethyl K20 H4 Bottom panel: Lane 1: monomethyl Lys31 H4 peptide Lane 2: dimethyl Lys31 H4 peptide Lane 3: trimethyl Lys31 H4 peptide Lane 4: monomethyl Lys44 H4 peptide Lane 5: dimethyl Lys44 H4 peptide Lane 6: trimethyl Lys44 H4 peptide.