

Histone H3K36me2 antibody (pAb)

Catalog Nos: 39255, 39056, 39256

RRID: AB_2793207

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

Reactivity: Budding Yeast, Human, Wide Range Predicted

Volumes: 100 µl, 50 µl, 10 µl

Purification: None

Host: Rabbit

Isotype: Serum

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). 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. Histone H3 is methylated at lysine 36 by the Set2 (yeast) and NSD1 (mammals) methyltransferases. Dimethylation of lysine 36 of histone H3 is involved with transcriptional elongation by RNA pol II holoenzyme and is a marker of transcribed genes.

Immunogen: This Histone H3 dimethyl Lys36 antibody was raised against a peptide including dimethyl-lysine 36 of histone H3.

Buffer: Rabbit serum containing 30% glycerol and 0.035% sodium azide. Sodium azide is highly toxic. For your convenience, an IgG version (Catalog No. 39891) of this antibody that was purified by Protein A Chromatography is also available.

Application Notes:

Applications Validated by Active Motif:

ChIP: 3 - 5 µl per ChIP

ChIP-Seq: 10 µl each

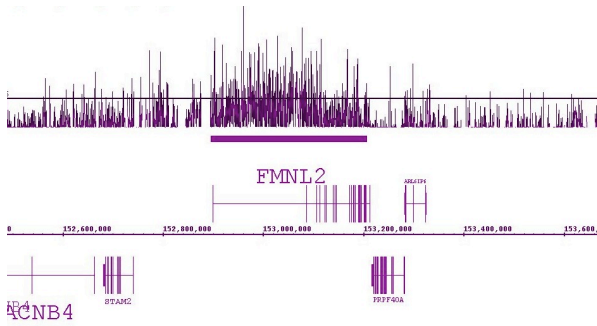
ICC/IF: 1:250 - 1:1,000 dilution

WB: 1:2500 - 1:5,000 dilution

CUT&Tag: 1-2 µl per 50 µl reaction

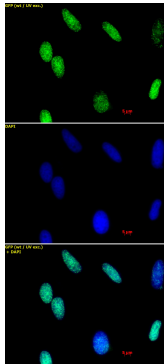
Storage and Guarantee: Some products may be shipped at room temperature. This will not affect their stability or performance. Avoid repeated freeze/thaw cycles by aliquoting items into single-use fractions for storage at -20°C for up to 2 years. Keep all reagents on ice when not in storage. This product is guaranteed for 12 months from date of receipt.

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



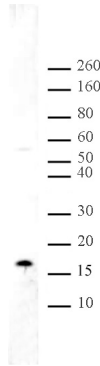
Histone H3 dimethyl Lys36 antibody tested by ChIP-chip.

ChIP was performed using the ChIP-IT[®] High Sensitivity Kit (Cat. No. 53040) with chromatin from a human lymphoma cell line (3 million cells). The ChIP DNA was amplified by WGA, labeled and hybridized to a human tiling array. The image shows H3K36me2 enrichment across the FMNL2 gene.



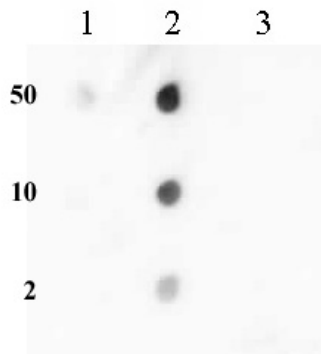
Histone H3 dimethyl Lys36 antibody tested by immunofluorescence.

Staining of HeLa cells with Histone H3 dimethyl Lys36 antibody (1:500 dilution, top panel) and DAPI (middle panel), and a merge of both images (bottom panel).



Histone H3 dimethyl Lys36 antibody tested by Western blot.

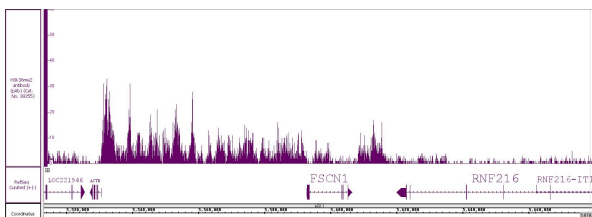
HeLa acid extract (10 µg per lane) probed with Histone H3 dimethyl Lys36 antibody at a dilution of 1:2,500.



Histone H3K36me2 antibody tested by dot blot analysis.

Dot blot analysis was used to confirm the specificity of Histone H3 dimethyl Lys36 antibody for histone H3 dimethyl Lys36. Methylated peptides corresponding to the immunogen were spotted onto PVDF and probed with the antibody at 1:5,000. The amount of peptide (picomoles) spotted is indicated next to each row.

- Lane 1: unmodified Lys36 peptide.
- Lane 2: monomethyl-Lys36 peptide.
- Lane 3: dimethyl-Lys36 peptide.
- Lane 3: trimethyl-Lys36 peptide.



Histone H3K36me2 antibody (pAb) tested by CUT&Tag

CUT&Tag was performed using 100,000 K562 cells and sequenced using 38 base-pair, paired-end reads on the Illumina NovaSeq. Data was collected from 6 million reads, and H3K36me2 data is shown for Chromosome 7.