

Histone H3K9me1 antibody (pAb)

Catalog Nos: 39249, 39250

RRID: AB_2793204

Isotype: Serum

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

Reactivity: Human, Wide Range Predicted

Volumes: 100 µl, 10 µl

Purification: None

Host: Rabbit

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 9 of histone H3 can be mono-, di- or trimethylated by different histone methyltransferases (HMTs) such as SuvH39H1 or G9a. This methylated lysine can be demethylated by histone demethylases as JMJD1A, LSD1 or JMJD2C. Methylation of this residue is mainly associated with transcriptional repression.

Immunogen: This Histone H3 monomethyl Lys9 antibody was raised against a peptide including monomethyl lysine 9 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. 39887) of this antibody that was purified by Protein A Chromatography is also available.

Application Notes:

Applications Validated by Active Motif:

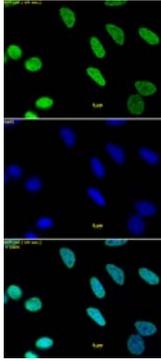
ICC/IF: 1:250 - 1:1,000 dilution

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

DB: 1:500 dilution

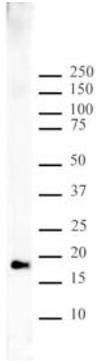
Storage and Guarantee: Some products may be shipped at room temperature. This will not affect their stability or performance. Avoid repeated freeze/thaw cycles by aliquoting items into single-use fractions for storage at -20°C for up to 2 years. Keep all reagents on ice when not in storage. This product 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 monomethyl Lys9 pAb tested by immunofluorescence.

Staining of HeLa cells with Histone H3 monomethyl Lys9 pAb (1:1,000 dilution, top panel) and DAPI (middle panel), and a merge of both images (bottom panel).



Histone H3 monomethyl Lys9 pAb tested by Western blot.

HeLa acid extract (10 µg per lane) probed with Histone H3 monomethyl Lys9 pAb at a dilution of 1:500.

Histone H3 monomethyl Lys9 pAb tested by dot blot analysis.

Dot blot analysis was used to confirm the specificity of Catalog No. 39249 for monomethyl Lys9 of histone H3. Methylated peptides corresponding to the immunogen and related sequences derived from histone H3 were spotted onto PVDF and probed with Catalog No. 39249 at 1:500. The amount of peptide (picomoles) spotted is indicated next to each row.



Lane 1: unmodified lysine 4 peptide. Lane 2: monomethyl lysine 4 peptide. Lane 3: dimethyl lysine 4 peptide. Lane 4: trimethyl lysine 4 peptide. Lane 5: unmodified lysine 9 peptide. Lane 6: monomethyl lysine 9 peptide. Lane 7: dimethyl lysine 9 peptide. Lane 8: trimethyl lysine 9 peptide. Lane 9: unmodified lysine 27 peptide. Lane 10: monomethyl lysine 27 peptide. Lane 11: dimethyl lysine 27 peptide. Lane 12: trimethyl lysine 27 peptide.