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Histone H3K9me2 (H3K9 Dimethyl) Polyclonal Antibody

(Catalog # A-4035)

Background
Modulation of chromatin structure plays an important role in the regulation of transcription in eukaryotes. The nucleosome, made up of DNA wound around eight core histone proteins (two each of H2A, H2B, H3, and H4), is the primary building block of chromatin. The amino-terminal tails of core histones undergo various post-translational modifications, including acetylation, phosphorylation, methylation, and ubiquitination. These modifications occur in response to various stimuli and have a direct effect on the accessibility of chromatin to transcription factors and, therefore, gene expression. In most species, histone H2B is primarily acetylated at Lys5, 12, 15, and 20. Histone H3 is primarily acetylated at Lys9, 14, 18, 23, 27, and 56. Acetylation of H3 at Lys9 appears to have a dominant role in histone deposition and chromatin assembly in some organisms. Phosphorylation at Ser10, Ser28, and Thr11 of histone H3 is tightly correlated with chromosome condensation during both mitosis and meiosis. Phosphorylation at Thr3 of histone H3 is highly conserved among many species and is catalyzed by the kinase haspin. Immunostaining with phospho-specific antibodies in mammalian cells reveals mitotic phosphorylation at Thr3 of H3 in prophase and its dephosphorylation during anaphase.

Description
Histone H3K9me2 (H3K9 Dimethyl) Polyclonal Antibody. Unconjugated. Raised in: Rabbit.

Formulation
Buffer: PBS with 0.01% thiomersal, 50% glycerol, pH7.3

Specificity
Broad Range, Mouse, Rat, Human

Isotype
IgG

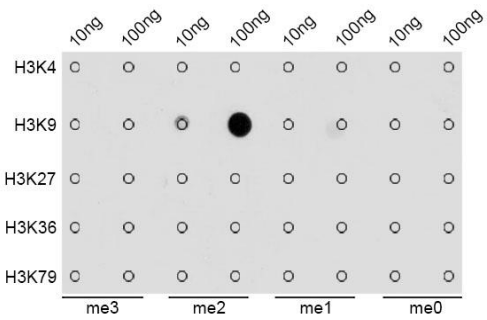
Uniprot ID
Q16695

Purification
Affinity Purified

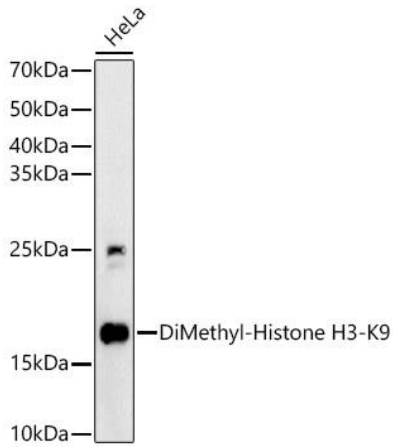
Immunogen
A synthetic dimethylated peptide around K9 of human histone H3 (NP_003520.1)

Storage
Shipped at 4°C. Store at -20°C. Avoid multiple freeze/thaw cycles.

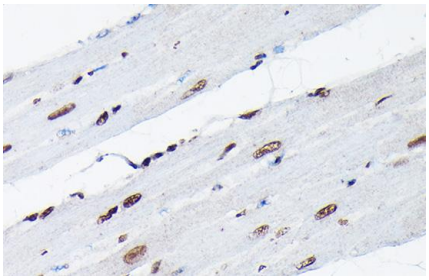
Application
WB, IHC, IF/ICC, IP, ChIP, ChIPseq; Recommended dilution: WB 1:500 - 1:1000, IHC 1:50 - 1:200, IF/ICC 1:50 - 1:200, IP 1:50 - 1:200, ChIP 1:50 - 1:200, ChIP-seq 1:50 - 1:200



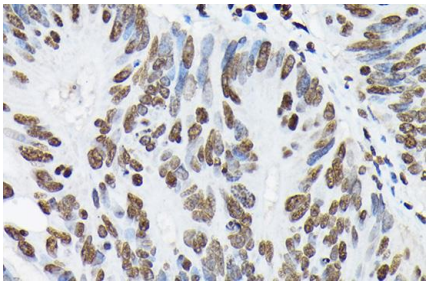
Dot-blot analysis of all sorts of methylation peptides using Histone H3K9me2 pAb.



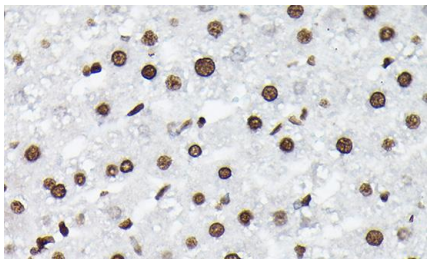
WB analysis of HeLa, using Histone H3K9me2 pAb at 1:600 dilution. Secondary antibody: HRP Goat Anti-Rabbit IgG (H+L) at 1:10000 dilution.
Lysates/proteins: 25ug per lane.
Blocking buffer: 3% nonfat dry milk in TBST.



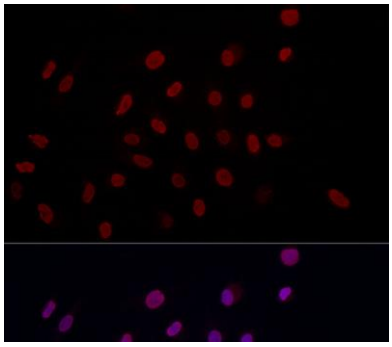
Immunohistochemistry of paraffin-embedded rat heart using Histone H3K9me2 pAb at dilution of 1:50 (40x lens). Performed high pressure antigen retrieval with 10 mM citrate buffer pH 6.0 before commencing with IHC staining protocol.



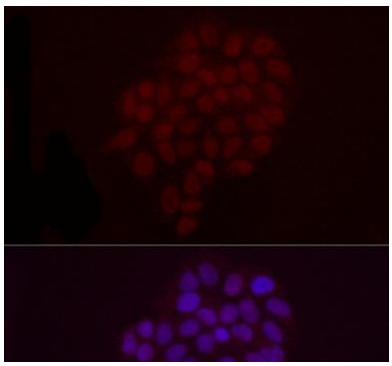
Immunohistochemistry of paraffin-embedded human colon carcinoma using Histone H3K9me2 pAb at dilution of 1:50 (40x lens). Performed high pressure antigen retrieval with 10 mM citrate buffer pH 6.0 before commencing with IHC staining protocol.



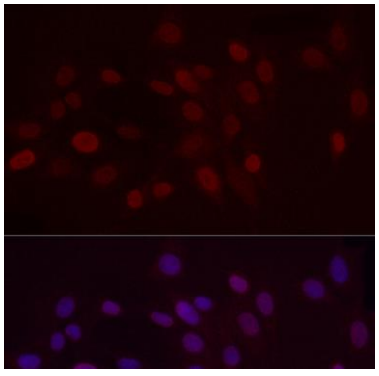
Immunohistochemistry of paraffin-embedded mouse liver using Histone H3K9me2 pAb at dilution of 1:50 (40x lens). Performed high pressure antigen retrieval with 10 mM citrate buffer pH 6.0 before commencing with IHC staining protocol.



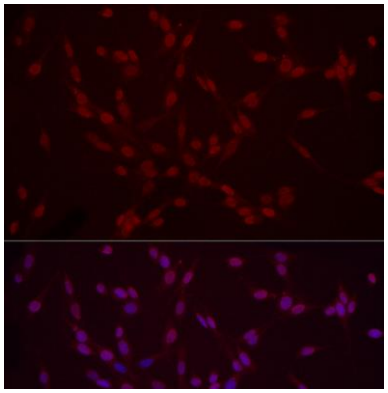
Immunofluorescence analysis of A-549 cells using Histone H3K9me2 pAb at dilution of 1:50 (40x lens). Blue: DAPI for nuclear staining.



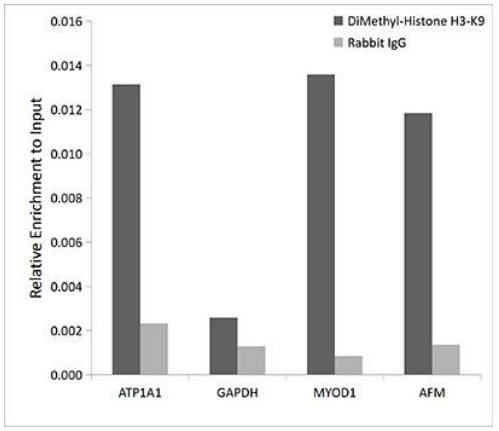
Immunofluorescence analysis of HeLa cells using Histone H3K9me2 pAb at dilution of 1:50 (40x lens). Blue: DAPI for nuclear staining.



Immunofluorescence analysis of NIH/3T3 cells using Histone H3K9me2 pAb at dilution of 1:50 (40x lens). Blue: DAPI for nuclear staining.



Immunofluorescence analysis of PC-12 cells using Histone H3K9me2 pAb at dilution of 1:50 (40x lens). Blue: DAPI for nuclear staining.



Chromatin immunoprecipitation analysis of extracts of HeLa cells, using Histone H3K9me2 pAb and rabbit IgG. The amount of immunoprecipitated DNA was checked by quantitative PCR. Histogram was constructed by the ratios of the immunoprecipitated DNA to the input