

Histone H3K4me1 (H3K4 Monomethyl) Polyclonal Antibody

(Catalog # A-4031)

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 (1). The amino-terminal tails of core histones undergo various post-translational modifications, including acetylation, phosphorylation, methylation, and ubiquitination (2-5). 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 (6). In most species, histone H2B is primarily acetylated at Lys5, 12, 15, and 20 (4,7). 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 (2,3). Phosphorylation at Ser10, Ser28, and Thr11 of histone H3 is tightly correlated with chromosome condensation during both mitosis and meiosis (8-10). 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 (11).

Description

Histone H3K4me1 (H3K4 Monomethyl) Polyclonal Antibody. Unconjugated. Raised in: Rabbit.

Formulation

Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH7.3.

Specificity

Broad Range, Mouse, Rat, Human

Isotype

IgG

Uniprot ID

Q16695

Purification

Affinity Purified

Immunogen

A synthetic monomethylated peptide around K4 of human histone H3 (NP_003520.1)

Storage

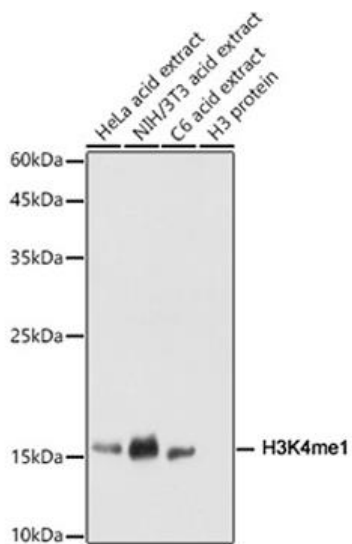
Shipped at 4°C. Upon receipt, store at -20°C. Avoid freeze / thaw cycles

Alternative Names

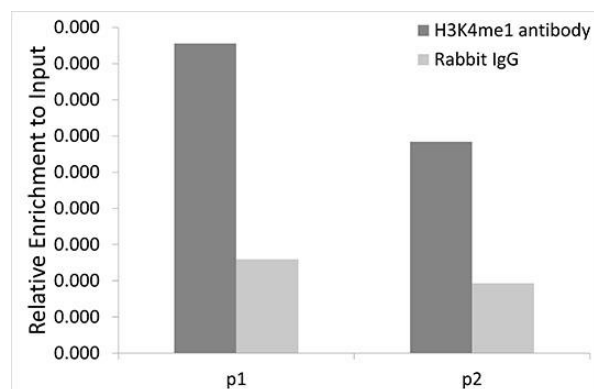
H3K4me1 antibody; H3K4m1 antibody; HIST1H3J; H3/j; H3FJ; Histone H3.1; Histone H3/a; Histone H3/b; Histone H3/c; Histone H3/d; Histone H3/f; Histone H3/g; Histone H3/h; Histone H3/i; Histone H3/j; Histone H3/k; Histone H3/l; HIST3H3

Application

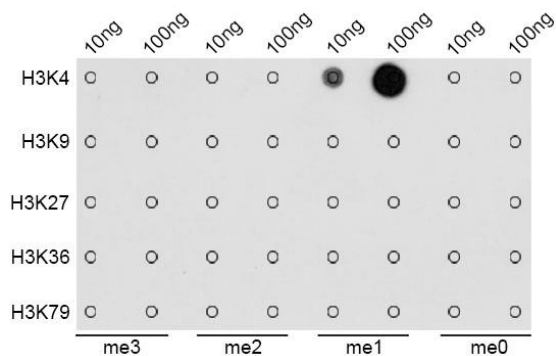
WB, IF, IP, ChIP, ChIP-seq; Recommended dilution: WB 1:500 - 1:2000, IF 1:50 - 1:200, IP 1:50 - 1:200, ChIP 1:20 - 1:100, ChIP-seq 1:20 - 1:100



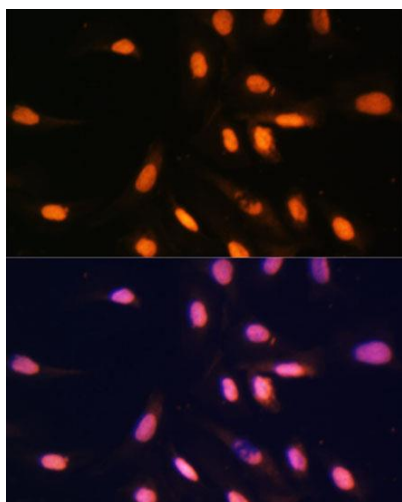
Western blot analysis of extracts of various cell lines, using Histone H3K4me1 (H3K4 Monomethyl) Polyclonal Antibody. Secondary antibody: HRP Goat Anti-Rabbit IgG (H+L) at 1:10000 dilution. Lysates/proteins: 25ug per lane. Blocking buffer: 3% nonfat dry milk in TBST.



Chromatin immunoprecipitation analysis of extracts of 293T cells, using Histone H3K4me1 (H3K4 Monomethyl) Polyclonal Antibody and rabbit IgG. P1 and P2 were located on promoter (GAPDH). The amount of immunoprecipitated DNA was checked by quantitative PCR. Histogram was constructed by the ratios of the immunoprecipitated DNA to the input.



Dot-blot analysis of all sorts of methylation peptides using Histone H3K4me1 (H3K4 Monomethyl) Polyclonal Antibody.



Immunofluorescence analysis of U-2 OS cells using Histone H3K4me1 (H3K4 Monomethyl) Polyclonal Antibody at dilution of 1:100. Blue: DAPI for nuclear staining.