

Rabbit Acetyl-Histone H3 Polyclonal Antibody | anti-HIST1H3A antibody

Acetyl-Histone H3 (Lys23) Antibody

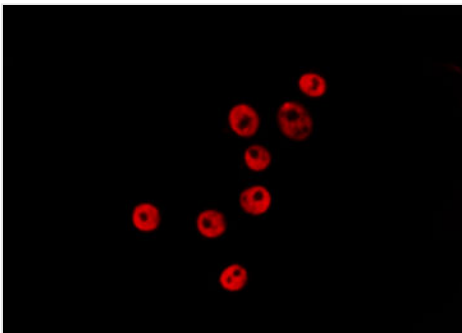
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA321282	Rabbit	Human, Mouse, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Western Blot

PRODUCT SYNONYMS

Acetyl-Histone H3; Polyclonal Antibody; Acetyl-Histone H3 (Lys23) Antibody; H3 histone family; member A; H3/A; H31_HUMAN; H3FA; Hist1h3a; HIST1H3B; HIST1H3C; HIST1H3D; HIST1H3E; HIST1H3F; HIST1H3G; HIST1H3H; HIST1H3I; HIST1H3J; histone 1; H3a; Histone cluster 1; Histone H3.1; Histone H3/a; Histone H3/b; Histone H3/c; Histone H3/d; Histone H3/f; Histone H3/h; Histone H3/i; Histone H3/j; Histone H3/k; Histone H3/l; ; H3.3A; HIST1 cluster; H3E; H3.1; H3/l; H3F3; H3FF; H3FJ; H3FL; Histone gene cluster 1; member E; histone H3.1t; Histone H3/o; FLJ92264; H 3; H3; member B; member C; member D; member F; member H; member I; member J; member K; member L; member T; H3 histone; family 3A; H3/b; H3/c; H3/d; h3/f; H3/h; H3/i; H3/j; H3/k; H3/t; H3F1K; H3F3A; H3FB; H3FC; H3FD; H3FH; H3FI; H3FK; H3A; H3B; H3C; H3D; H3F; H3G; H3H; H3I; H3J; HIST1H3A; HIST3H3; Histone 1; H3b; H3c; H3d; H3e; H3f; H3g; H3h; H3i; Histone 3; histone cluster 1 H3 family member a; histone cluster 1 H3 family member b; histone cluster 1 H3 family member c; histone cluster 1 H3 family member d; histone cluster 1 H3 family member e; histone cluster 1 H3 family member f; histone cluster 1 H3 family member g; histone cluster 1 H3 family member h; histone cluster 1 H3 family member i; histone cluster 1 H3 family member j; H3j; member G; Histone H 3; Histone H3.2; Histone H3.3; Histone H3/m; H3 histone family 3A; H3 histone family 3B; family 3B (H3.3B); H3.3; H3.3B; H33_HUMAN; H3f3b; Histone H3.3Q; Histone H3.A; Histone H3.B; MGC87782; MGC87783; anti-HIST1H3A antibody

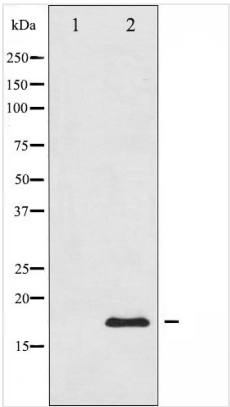
PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Specificity	Acetyl-Histone H3 (Lys23) antibody detects endogenous levels of total Histone H3 protein only when acetylated at lysine23.
Purity/Purification	Affinity Purification
Form/Format	Liquid 1mg/ml in PBS, pH 7.4, containing 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	136
Applicable Applications for anti-HIST1H3A antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), WB (Western Blot)
Immunogen	The antiserum was produced against synthesized peptide derived from human Histone H3 around the acetylated site of Lys23.
Subcellular Location	Nucleus. Chromosome.
Tissue Specificity	Expressed during S phase, then expression strongly decreases as cell division slows down during the process of differentiation.
Conjugation	Unconjugated
Epitope	Acetyl Lys23
Preparation and Storage	Store at -20 degree C. Stable for one year from the date of shipment.



IF (Immunofluorescence)

AAA321282 staining HepG2 by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.



WB (Western Blot)

Western blot analysis of extracts from Raw264.7 cells, treated with TSA 400nM 24h, using Acetyl-Histone H3 (Lys23) Antibody. The lane on the left is treated with the synthesized peptide.

Related Product Information for anti-HIST1H3A antibody

Description: Histone H3 is one of the five main histone proteins involved in the structure of chromatin in eukaryotic cells. Core component of nucleosome. Nucleosomes wrap and compact DNA into chromatin, limiting DNA accessibility to the cellular machineries which require DNA as a template. Histones thereby play a central role in transcription regulation, DNA repair, DNA replication and chromosomal stability.

Function: Core component of nucleosome. Nucleosomes wrap and compact DNA into chromatin, limiting DNA accessibility to the cellular machineries which require DNA as a template. Histones thereby play a central role in transcription regulation, DNA repair, DNA replication and chromosomal stability. DNA accessibility is regulated via a complex set of post-translational modifications of histones, also called histone code, and nucleosome remodeling.

Subunit Structure: The nucleosome is a histone octamer containing two molecules each of H2A, H2B, H3 and H4 assembled in one H3-H4 heterotetramer and two H2A-H2B heterodimers. The octamer wraps approximately 147 bp of DNA.

Post-translational Modifications: Acetylation is generally linked to gene activation. Acetylation on Lys-10 (H3K9ac) impairs methylation at Arg-9 (H3R8me2s). Acetylation on Lys-19 (H3K18ac) and Lys-24 (H3K24ac) favors methylation at Arg-18 (H3R17me). Acetylation at Lys-123 (H3K122ac) by EP300/p300 plays a central role in chromatin structure: localizes at the surface of the histone octamer and stimulates transcription, possibly by promoting nucleosome instability. Citrullination at Arg-9 (H3R8ci) and/or Arg-18 (H3R17ci) by PADI4 impairs methylation and represses transcription. Asymmetric dimethylation at Arg-18 (H3R17me2a) by CARM1 is linked to gene activation. Symmetric dimethylation at Arg-9 (H3R8me2s) by PRMT5 is linked to gene repression. Asymmetric dimethylation at Arg-3 (H3R2me2a) by PRMT6 is linked to gene repression and is mutually exclusive with H3 Lys-5 methylation (H3K4me2 and H3K4me3). H3R2me2a is present at the 3' of genes regardless of their transcription state and is enriched on inactive promoters, while it is absent on active promoters. Methylation at Lys-5 (H3K4me), Lys-37 (H3K36me) and Lys-80 (H3K79me) are linked to gene activation. Methylation at Lys-5 (H3K4me) facilitates subsequent acetylation of H3 and H4. Methylation at Lys-80 (H3K79me) is associated with DNA double-strand break (DSB) responses and is a specific target for TP53BP1. Methylation at Lys-10 (H3K9me) and Lys-28 (H3K27me) are linked to gene repression. Methylation at Lys-10 (H3K9me) is a specific target for HP1 proteins (CBX1, CBX3 and CBX5) and prevents subsequent phosphorylation at Ser-11 (H3S10ph) and acetylation of H3 and H4. Methylation at Lys-5 (H3K4me) and Lys-80 (H3K79me) require preliminary monoubiquitination of H2B at 'Lys-120'. Methylation at Lys-10 (H3K9me) and Lys-28 (H3K27me) are enriched in inactive X chromosome chromatin. Monomethylation at Lys-57 (H3K56me1) by EHMT2/G9A in G1 phase promotes interaction with PCNA and is required for DNA replication. Phosphorylated at Thr-4 (H3T3ph) by HASPIN during prophase and dephosphorylated during anaphase. Phosphorylation at Ser-11 (H3S10ph) by AURKB is crucial for chromosome condensation and cell-cycle progression during mitosis and meiosis. In addition phosphorylation at Ser-11 (H3S10ph) by RPS6KA4 and RPS6KA5 is important during interphase because it enables the transcription of genes following external stimulation, like mitogens, stress, growth factors or UV irradiation and result in the activation of genes, such as c-fos and c-jun. Phosphorylation at Ser-11 (H3S10ph), which is linked to gene activation, prevents methylation at Lys-10 (H3K9me) but facilitates acetylation of H3 and H4. Phosphorylation at Ser-11 (H3S10ph) by AURKB mediates the dissociation of HP1 proteins (CBX1, CBX3 and CBX5) from heterochromatin. Phosphorylation at Ser-11 (H3S10ph) is also an essential regulatory mechanism for neoplastic cell transformation. Phosphorylated at Ser-29 (H3S28ph) by MAP3K20 isoform 1, RPS6KA5 or AURKB during mitosis or upon ultraviolet B irradiation. Phosphorylation at Thr-7 (H3T6ph) by PRKCB is a specific tag for epigenetic transcriptional activation that prevents demethylation of Lys-5 (H3K4me) by LSD1/KDM1A. At centromeres, specifically phosphorylated at Thr-12 (H3T11ph) from prophase to early anaphase, by DAPK3 and PKN1. Phosphorylation at Thr-12 (H3T11ph) by PKN1 is a specific tag for epigenetic transcriptional activation that promotes demethylation of Lys-10 (H3K9me) by KDM4C/JMJD2C. Phosphorylation at Thr-12 (H3T11ph) by chromatin-associated CHEK1 regulates the transcription of cell cycle regulatory genes by modulating acetylation of Lys-10 (H3K9ac). Phosphorylation at Tyr-42 (H3Y41ph) by JAK2 promotes exclusion of CBX5 (HP1 alpha) from chromatin. Monoubiquitinated by RAG1 in lymphoid cells, monoubiquitination is required for V(D)J recombination (By similarity). Ubiquitinated by the CUL4-DDB-RBX1 complex in response to ultraviolet irradiation. This may weaken the interaction between histones and DNA and facilitate DNA accessibility to repair proteins. Lysine deamination at Lys-5 (H3K4all) to form allysine is mediated by LOXL2. Allysine formation by LOXL2 only takes place on H3K4me3 and results in gene repression. Crotonylation (Kcr) is specifically present in male germ cells and marks testis-specific genes in post-meiotic cells, including X-linked genes that escape sex chromosome inactivation in haploid cells. Crotonylation marks active promoters and enhancers and confers resistance to transcriptional repressors. It is also associated with post-meiotically activated genes on autosomes. Butyrylation of histones marks active promoters and competes with histone acetylation. It is present during late spermatogenesis. Succinylation at Lys-80 (H3K79succ) by KAT2A takes place with a maximum frequency around the transcription start sites of genes (PubMed:29211711). It gives a specific tag for epigenetic transcription activation (PubMed:29211711).

Similarity: Belongs to the histone H3 family.

NCBI AND UNIPROT INFORMATION

NCBI GI #	4504281
NCBI GeneID	8350
NCBI Accession #	NP_003520.1
NCBI GenBank Nucleotide #	NM_003529.2
UniProt Accession #	P68431; P02295; P02296; P16106; Q6ISV8; Q6NWP8; Q6NWP9; Q6NXU4; Q71DJ3; Q93081; A0PJT7; A5PLR1
Molecular Weight	Observed: 15 kD Predicted: 16 kDa
NCBI Official Full Name	histone H3.1
NCBI Official Synonym Full Names	histone cluster 1 H3 family member a
NCBI Official Symbol	HIST1H3A
NCBI Official Synonym Symbols	H3/A; H3FA
NCBI Protein Information	histone H3.1
UniProt Protein Name	Histone H3.1
UniProt Gene Name	HIST1H3A
UniProt Synonym Gene Names	H3FA

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