abcam

Product datasheet

Anti-Histone H3 (mono methyl K36) antibody - ChIP Grade ab9048

11 Abreviews 76 References 6 图像

概述

产品名称	Anti-Histone H3 (mono methyl K36)抗体- ChIP Grade
描述	兔多克隆抗体to Histone H3 (mono methyl K36) - ChIP Grade
宿主	Rabbit
特异性	Specific for human Histone H3 mono methyl K36. Shows partial cross-reactivity with di-methyl K36 (please see Western Blot image). This antibody may not be suitable for experiments on yeast lysate. Although the antibody is specifically blocked using the immunising peptide, customer feedback indicates that it detects a band using S. cerevisiae K36 point mutants. We welcome further customer feedback.
经测试应用	**适用于:** IHC-P, ICC, ICC/IF, WB, ChIP
种属反应性	**与反应:** Mouse, Cow, Human, Pig, Saccharomyces cerevisiae, Arabidopsis thaliana, Drosophila melanogaster **预测可用于:** Mammals
免疫原	Synthetic peptide within Human Histone H3 aa 1-100 (mono methyl K36) conjugated to Keyhole Limpet Haemocyanin (KLH). The exact sequence is proprietary. (Peptide available as ab1783)
阳性对照	WB: HeLa histone preparation and HeLa whole cell extract. ChIP: HeLa cells.

性能

形式	Liquid
存放说明	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
存储溶液	pH: 7.40 Preservative: 0.02% Sodium azide Constituent: PBS Batches of this product that have a concentration < 1mg/ml may have BSA added as a stabilising agent. If you would like information about the formulation of a specific lot, please contact our scientific support team who will be happy to help.
纯度	Immunogen affinity purified

克隆	**多克隆**
同种型	IgG

应用

Our Abpromise guarantee covers the use of **ab9048** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

应用	Ab评论	说明
IHC-P	★★★★★	Use at an assay dependent concentration.
ICC	★★★★★	Use at an assay dependent concentration.
ICC/IF	★★★★★	Use at an assay dependent concentration. PubMed: 19727073
WB	★★☆☆☆	1/1000. Can be blocked with Human Histone H3 (mono methyl K36) peptide (ab1783).
ChIP	★★★★☆	Use 2 µg for 25 µg of chromatin.

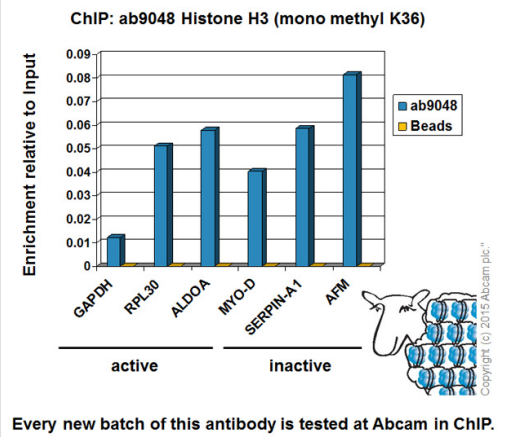
靶标

功能	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.
序列相似性	Belongs to the histone H3 family.
发展阶段	Expressed during S phase, then expression strongly decreases as cell division slows down during the process of differentiation.
翻译后修饰	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). 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. Phosphorylated at Thr-4 (H3T3ph) by GSG2/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 MLTK isoform 1, RPS6KA5 or AURKB during mitosis or upon ultraviolet B irradiation. Phosphorylation at Thr-7 (H3T6ph) by PRKCBB 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 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.

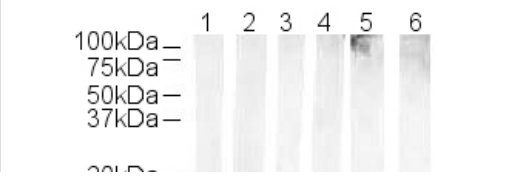
细胞定位 Nucleus. Chromosome.

图片

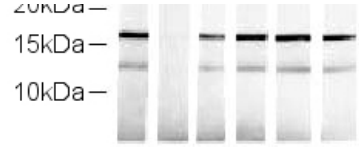


ChIP - Anti-Histone H3 (mono methyl K36) antibody - ChIP Grade (ab9048)

Chromatin was prepared from HeLa cells according to the Abcam X-ChIP protocol. Cells were fixed with formaldehyde for 10 minutes. The ChIP was performed with 25µg of chromatin, 2µg of ab9048 (blue), and 20µl of Protein A/G sepharose beads. No antibody was added to the beads control (yellow). The immunoprecipitated DNA was quantified by real time PCR (Taqman approach). Primers and probes are located in the first kb of the transcribed region.



All lanes : Anti-Histone H3 (mono methyl K36) antibody - ChIP Grade (ab9048) at 1/500 dilution



Western blot - Anti-Histone H3 (mono methyl K36) antibody - ChIP Grade (ab9048)

Lane 1 : Histone prep
Lane 2 : Histone prep with Human Histone H3 (mono methyl K36) peptide (ab1783) at 1 µg/ml
Lane 3 : Histone prep with Human Histone H3 (di methyl K36) peptide (ab1784) at 1 µg/ml
Lane 4 : Histone prep with Human Histone H3 (tri methyl K36) peptide (ab1785) at 1 µg/ml
Lane 5 : Histone prep with Human Histone H3 (unmodified) peptide (ab2623) at 1 µg/ml
Lane 6 : Histone prep with Human Histone H3 (mono methyl K4) peptide (ab1340) at 1 µg/ml

Lysates/proteins at 0.5 µg per lane.

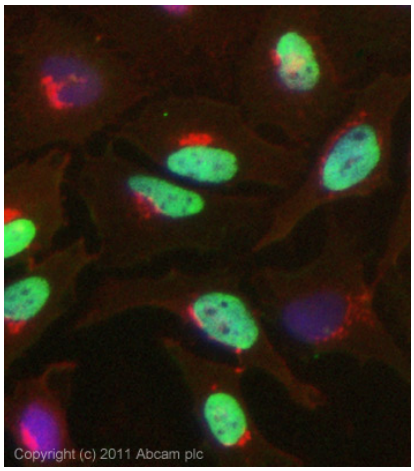
Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (ab6721) at 1/5000 dilution

Secondary ab: Alexa Fluor 680 Goat anti-rabbit IgG

0.5µg histone prep used per lane

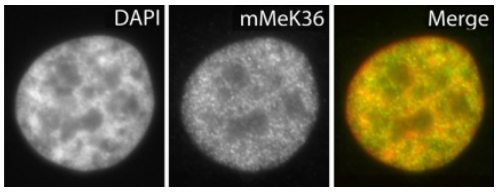
Primary antibody:
Lane 1: ab9048 (Histone H3 Mono Methyl K36) 1/500
Lane 2: ab9048 (Histone H3 Mono Methyl K36) 1/500 + ab1783 (ab9048) (Histone H3 Mono Methyl K36) peptide 1µg/ml
Lane 3: ab9048 (Histone H3 Mono Methyl K36) 1/500 + ab1794 (ab9049) (Histone H3 Di Methyl K36) peptide 1µg/ml
Lane 4: ab9048 (Histone H3 Mono Methyl K36) 1/500 + ab1785 (ab9050) (Histone H3 Tri Methyl K36) peptide 1µg/ml
Lane 5: ab9048 (Histone H3 Mono Methyl K36) 1/500 + ab2623 (Histone H3 (23-34) – unmodified) peptide 1µg/ml
Lane 6: ab9048 (Histone H3 Mono Methyl K36) 1/500 + ab1340 (ab8895) (Histone H3 Mono methyl K4) peptide 1µg/ml

ab9048 specifically recognise



Immunocytochemistry/ Immunofluorescence - Anti-Histone H3 (mono methyl K36) antibody - ChIP Grade (ab9048)

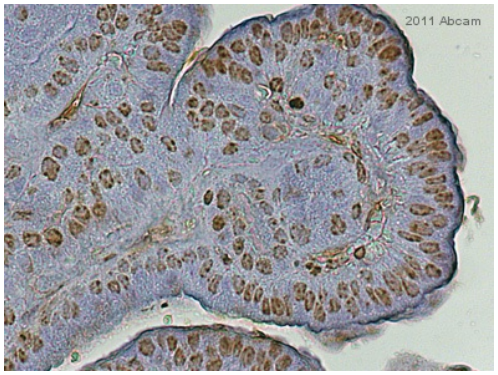
ICC/IF image of ab9048 stained HeLa cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab9048, 0.1µg/ml) overnight at +4°C. The secondary antibody (green) was ab96899, DyLight® 488 goat anti-rabbit IgG (H+L) used at a 1/250 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM. This antibody also gave a positive result in 4% formaldehyde fixed (10 min) Hek293, HepG2 and MCF7 cells at 0.1µg/ml, and in 100% methanol fixed (5 min) HeLa, Hek293, HepG2 and MCF7 cells at 0.1µg/ml.



Immunocytochemistry - Anti-Histone H3 (mono methyl K36) antibody - ChIP Grade (ab9048)

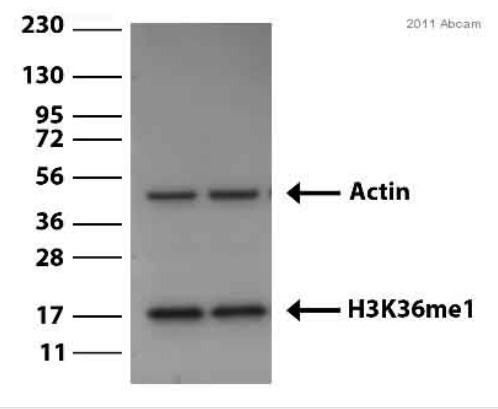
This image was submitted as part of a review by Kirk McManus, University of Columbia

Staining of interphase nuclei of Hela cells with ab9048 (green) at a working dilution of 1/500. The DNA is stained with DAPI. ab9048 appears to be more associated with heterochromatin (DAPI intense regions) than euchromatin (DAPI less intense regions).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Histone H3 (mono methyl K36) antibody - ChIP Grade (ab9048)
This image is courtesy of an anonymous Abreview.

ab9048 staining Histone H3 (mono methyl K36) in Mouse pancreatic tumor tissue by Immunohistochemistry (Formalin/ PFA-fixed paraffin-embedded tissue sections). The sections were PFA-fixed and subjected to Heat mediated antigen retrieval in citrate and permeabilized with PBST prior to blocking with 5% serum for 1 hour at room temperature. The primary antibody was diluted 1/500 in PBS and incubated with the sample for 8 hours at 4°C. A Biotin-conjugated Goat anti-Rabbit polyclonal was used as the secondary antibody, diluted 1/1000.



Western blot - Anti-Histone H3 (mono methyl K36) antibody - ChIP Grade (ab9048)
Image courtesy of an anonymous Abreview.

All lanes : Anti-Histone H3 (mono methyl K36) antibody - ChIP Grade (ab9048) at 1/1400 dilution

All lanes : Whole cell lysate prepared from Drosophila BG3 cells

Lysates/proteins at 500000 cells per lane.

Secondary
All lanes : HRP donkey anti-rabbit monoclonal at 1/20000 dilution

Developed using the ECL technique.

Observed band size: 17,42 kDa

Exposure time: 30 seconds

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