Product datasheet

Anti-Histone H3 antibody [mAbcam 24834] - Nuclear Loading Control and ChIP Grade ab24834

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概述

产品名称	Anti-Histone H3抗体[mAbcam 24834] -核Loading Control and ChIP Grade
描述	小鼠单克隆抗体[mAbcam 24834] to Histone H3 -核Loading Control and ChIP Grade
宿主	Mouse
经测试应用	**适用于:** ChIP, WB
种属反应性	**与反应:** Mouse, Rat, Human **预测可用于:** a wide range of other species
免疫原	Synthetic peptide corresponding to Human Histone H3 aa 100 to the C-terminus. Database link: **P68431** (Peptide available as **ab12149**)
阳性对照	ChIP: Chromatin was prepared from HeLa cells. WB: HeLa histone prep. NIH/3T3 and PC-12 whole cell lysates. Mouse and rat testis tissue lysates.
常规说明	This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact **orders@abcam.com**. The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

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: 7.50 Preservative: 0.02% Sodium azide Constituents: PBS, 6.97% L-Arginine

纯度	IgG fraction
克隆	单克隆
克隆编号	mAbcam 24834
骨髓瘤	Sp2/0-Ag14
同种型	IgG3
轻链类型	kappa

应用

The Abpromise guarantee Abpromise™承诺保证使用ab24834于以下的经测试应用

"应用说明"部分 下显示的仅为推荐的起始稀释度;实际最佳的稀释度/浓度应由使用者检定。

应用	Ab评论	说明
ChIP		Use 5 µg for 25 µg of chromatin.
WB	★★★★★ (6)	Use a concentration of 0.5 - 1 µg/ml. Detects a band of approximately 18 kDa (predicted molecular weight: 15 kDa).Can be blocked with **Human Histone H3 peptide (ab12149)**.

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.

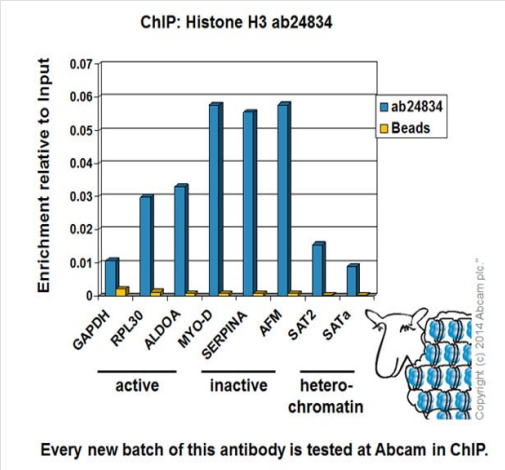
发展阶段 Expressed during S phase, then expression strongly decreases as cell division slows down during the process of differentiation.

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.

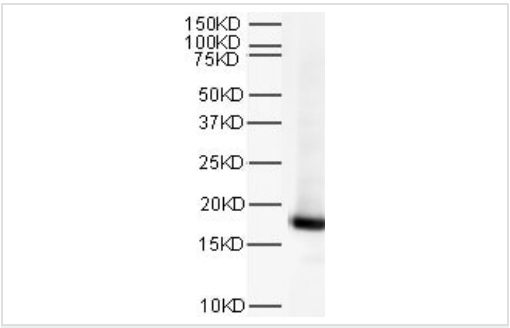
细胞定位 Nucleus. Chromosome.

图片



ChIP - Anti-Histone H3 antibody [mAbcam 24834] - Nuclear Loading Control and ChIP Grade (ab24834)

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, 5µg of ab24834 (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 for active and inactive loci, Sybr green approach for heterochromatic loci). Primers and probes are located in the first kb of the transcribed region.



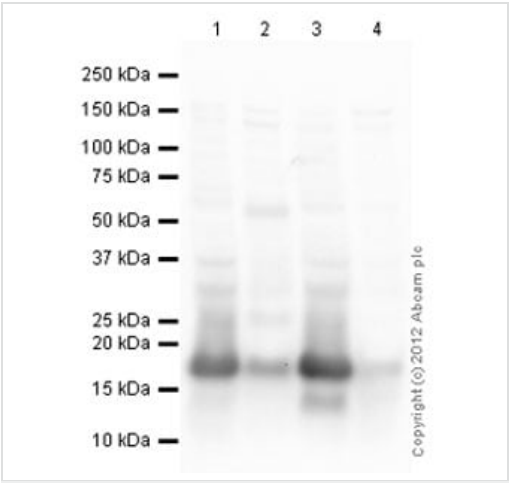
Western blot - Anti-Histone H3 antibody [mAbcam 24834] - Nuclear Loading Control and ChIP Grade (ab24834)

Anti-Histone H3 antibody [mAbcam 24834] - Nuclear Loading Control and ChIP Grade (ab24834) at 1 µg/ml + HeLa histone prep at 1 µg/ml

Secondary

Rabbit Anti-Mouse IgG H&L (HRP) (**ab6728**) at 1/5000 dilution

Predicted band size: 15 kDa
Observed band size: 18 kDa



Western blot - Anti-Histone H3 antibody [mAbcam 24834] - Nuclear Loading Control and ChIP Grade (ab24834)

All lanes : Anti-Histone H3 antibody [mAbcam 24834] - Nuclear Loading Control and ChIP Grade (ab24834) at 1 µg/ml

Lane 1 : NIH/3T3 (Mouse embryonic fibroblast cell line) Whole Cell Lysate
Lane 2 : Testis (Mouse) Tissue Lysate
Lane 3 : PC12 (Rat adrenal pheochromocytoma cell line) Whole Cell Lysate
Lane 4 : Testis (Rat) Tissue Lysate - normal tissue (**ab29388**)

Lysates/proteins at 10 µg per lane.

Secondary

All lanes : Goat Anti-Mouse IgG H&L (HRP) preadsorbed (**ab97040**) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 15 kDa
Observed band size: 18 kDa

Exposure time: 3 minutes

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