abcam

Product datasheet

# Anti-Histone H4 antibody - ChIP Grade ab10158

20 Abreviews 276 References 5 图像

## 概述

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| **产品名称** | Anti-Histone H4抗体- ChIP Grade |
| **描述** | 兔多克隆抗体to Histone H4 - ChIP Grade |
| **宿主** | Rabbit |
| **经测试应用** | **适用于:** IP, ChIP, IHC-P, WB |
| **种属反应性** | **与反应:** Mouse, Rat, Human<br>**预测可用于:** Chicken, Cow, Pig, Saccharomyces cerevisiae, Xenopus laevis, Caenorhabditis elegans, Drosophila melanogaster |
| **免疫原** | Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.<br>(Peptide available as **ab13843**) |
| **常规说明** | For recombinant monoclonal Histone H4 antibody (ChIP grade) - please see **ab213291 (IGX4696H)**.<br>For mouse monoclonal Histone H4 antibody (ChIP grade) - please see **ab31830 (mAbcam 31830)**.<br>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.<br>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

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| **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<br>Preservative: 0.02% Sodium azide<br>Constituent: PBS<br>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.

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| **纯度** | Immunogen affinity purified |
| **克隆** | **多克隆** |
| **同种型** | IgG |

## 应用

**The Abpromise guarantee** **Abpromise™承诺保证使用ab10158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 |
|---|---|---|
| **IP** | | Use at an assay dependent concentration. |
| **ChIP** | ★★☆☆☆ (2) | Use 2 µg for 25 µg of chromatin. |
| **IHC-P** | ★★★★★ (1) | Use a concentration of 1 µg/ml. Perform heat mediated antigen retrieval before commencing with IHC staining protocol. |
| **WB** | ★★★★★ (11) | Use a concentration of 1 µg/ml. Detects a band of approximately 14 kDa (predicted molecular weight: 11 kDa).Can be blocked with **Human Histone H4 peptide (ab13843)**. |

## 靶标

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| **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 H4 family. |
| **翻译后修饰** | Acetylation at Lys-6 (H4K5ac), Lys-9 (H4K8ac), Lys-13 (H4K12ac) and Lys-17 (H4K16ac) occurs in coding regions of the genome but not in heterochromatin.<br>Citrullination at Arg-4 (H4R3ci) by PADI4 impairs methylation.<br>Monomethylation and asymmetric dimethylation at Arg-4 (H4R3me1 and H4R3me2a, respectively) by PRMT1 favors acetylation at Lys-9 (H4K8ac) and Lys-13 (H4K12ac). Demethylation is performed by JMJD6. Symmetric dimethylation on Arg-4 (H4R3me2s) by the PRDM1/PRMT5 complex may play a crucial role in the germ-cell lineage.<br>Monomethylated, dimethylated or trimethylated at Lys-21 (H4K20me1, H4K20me2, H4K20me3). Monomethylation is performed by SET8. Trimethylation is performed by SUV420H1 and SUV420H2 and induces gene silencing.<br>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. Monoubiquitinated at Lys-92 of histone H4 (H4K91ub1) in response to DNA damage. The exact role of H4K91ub1 in DNA damage response is still unclear but it may function as a licensing signal for additional histone H4 post-translational modifications such as H4 Lys-21 methylation (H4K20me). |

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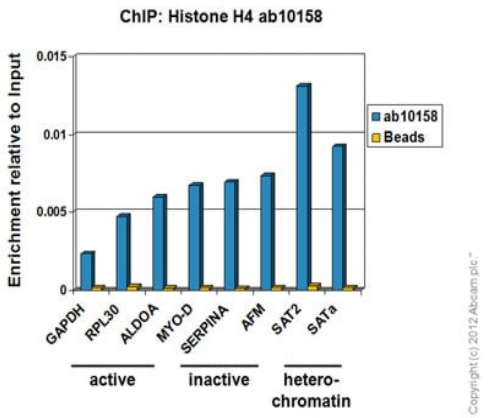
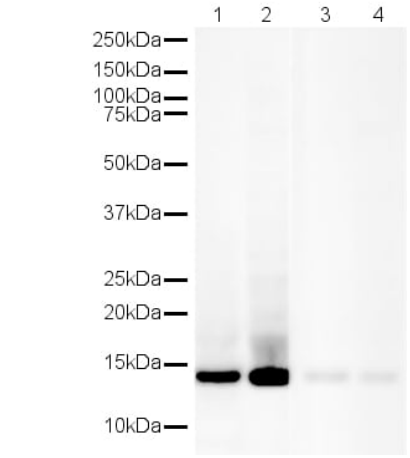
| | Sumoylated, which is associated with transcriptional repression. |
| **细胞定位** | Nucleus. Chromosome. |

## 图片




ChIP - Anti-Histone H4 antibody - ChIP Grade (ab10158)

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 ab10158 (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 H4 antibody - ChIP Grade (ab10158)

**All lanes :** Anti-Histone H4 antibody - ChIP Grade (ab10158) at 1 µg/ml

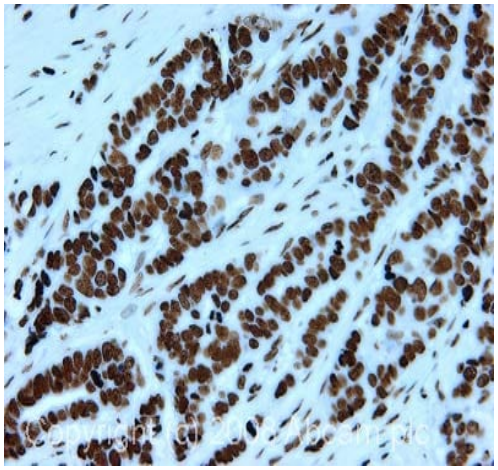
**Lane 1 :** Histone prep
**Lane 2 :** HeLa histone lysate
**Lane 3 :** Histone prep with Human Histone H4 peptide (**ab13843**) at 1 µg/ml
**Lane 4 :** HeLa Histone lysate with Human Histone H4 peptide (**ab13843**) at 1 µg/ml

Lysates/proteins at 20 µg per lane.

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

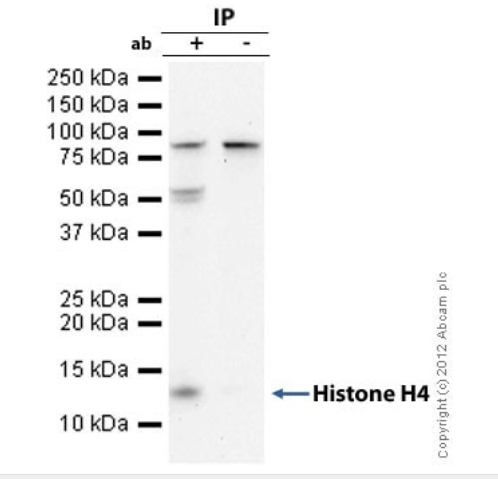
Performed under reducing conditions.

**Predicted band size:** 11 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Histone H4 antibody - ChIP Grade (ab10158)

IHC image of Histone H4 staining in human breast carcinoma FFPE section, performed on a Bond$^{TM}$ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab10158, 1µg/ml, for 8 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.




Immunoprecipitation - Anti-Histone H4 antibody - ChIP Grade (ab10158)

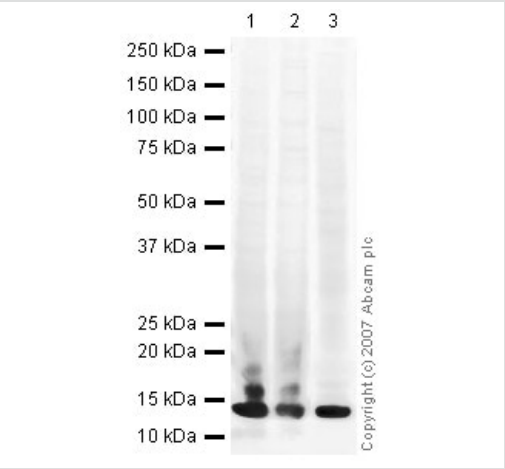
Histone H4 was immunoprecipitated using 0.5mg NIH/3T3 whole cell lysate, 5µg of Rabbit polyclonal to Histone H4 and 50µl of protein G magnetic beads (+). No antibody was added to the control (-).

The antibody was incubated under agitation with Protein G beads for 10min, NIH3T3 whole cell lysate lysate diluted in RIPA buffer was added to each sample and incubated for a further 10min under agitation.

Proteins were eluted by addition of 40µl SDS loading buffer and incubated for 10min at 70$^{o}$C; 10µl of each sample was separated on a SDS PAGE gel, transferred to a nitrocellulose membrane, blocked with 5% BSA and probed with ab10158.

Secondary: Clean blot (HRP conjugate) at 1/1000 dilution.

Band: 14kDa: Histone H4; non specific - 52 and 85kDa: We are unsure as to the identity of this extra band.




Western blot - Anti-Histone H4 antibody - ChIP Grade (ab10158)

**All lanes :** Anti-Histone H4 antibody - ChIP Grade (ab10158) at 1 µg/ml

**Lane 1 :** NIH/3T3 whole cell lysate (**ab7179**)
**Lane 2 :** MEF1 (Mouse embryonic fibroblast cell line) Whole Cell Lysate
**Lane 3 :** PC12 (Rat adrenal pheochromocytoma cell line) Whole Cell Lysate

Lysates/proteins at 10 µg per lane.

**Secondary**
**All lanes :** IRDye 680 Conjugated Goat Anti-Rabbit IgG (H+L) at 1/10000 dilution

Performed under reducing conditions.

**Predicted band size:** 11 kDa
**Observed band size:** 14 kDa



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