

Product datasheet

Anti-Histone H4 antibody [mAbcam 17036] - ChIP Grade ab17036

★★★★★ [4 Abreviews](#) [9 References](#) [7 Images](#)

Overview

Product name	Anti-Histone H4 antibody [mAbcam 17036] - ChIP Grade
Description	Mouse monoclonal [mAbcam 17036] to Histone H4 - ChIP Grade
Host species	Mouse
Tested applications	Suitable for: IHC-P, ChIP, WB
Species reactivity	Reacts with: Mouse, Rat, Cow, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers. (Peptide available as ab13843)
Positive control	This antibody gave a positive signal in the following: Calf thymus histone preparation; HeLa histone preparation; Histone H4 recombinant protein; NIH3T3 Whole Cell Lysate; MEF1 Whole Cell Lysate; PC12 Whole Cell Lysate.
General notes	<p>To detect histone H4 by ICC/IF, we recommend using ab177840 or ab9052 since these antibodies perform better in this application.</p> <p>This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com.</p> <p>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.</p> <p>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</p>

Properties

Form	Liquid
Storage instructions	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.
Storage buffer	pH: 7.40 Preservative: 0.02% Sodium azide

	Constituent: PBS
Purity	IgG fraction
Clonality	Monoclonal
Clone number	mAbcam 17036
Myeloma	Sp2/0-Ag14
Isotype	IgG2a
Light chain type	kappa

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab17036 in the following tested applications.

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

Application	Abreviews	Notes
IHC-P	★★★★★ (1)	Use a concentration of 1 µg/ml.
ChIP		Use 5 µg for 25 µg of chromatin.
WB	★★★★★ (2)	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) . We recommend using 3% milk as the blocking agent for Western blot.

Target

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.

Sequence similarities Belongs to the histone H4 family.

Post-translational modifications 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. Citrullination at Arg-4 (H4R3ci) by PAD4 impairs methylation. 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. 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. 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

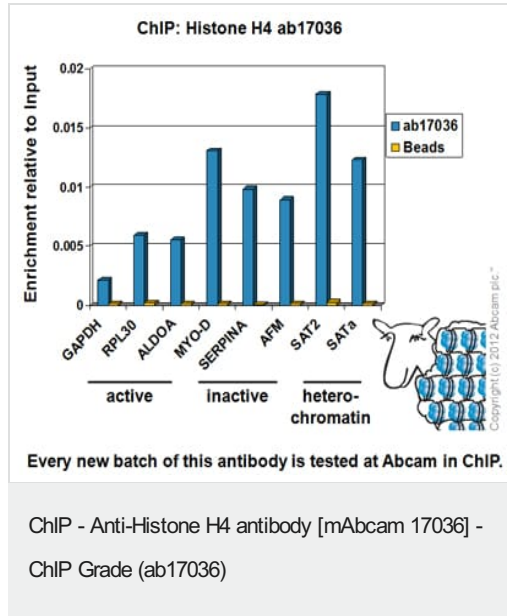
licensing signal for additional histone H4 post-translational modifications such as H4 Lys-21 methylation (H4K20me).

Sumoylated, which is associated with transcriptional repression.

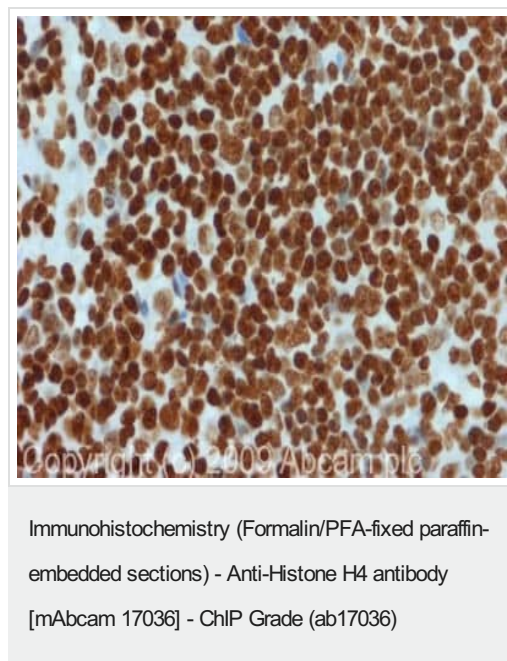
Cellular localization

Nucleus. Chromosome.

Images

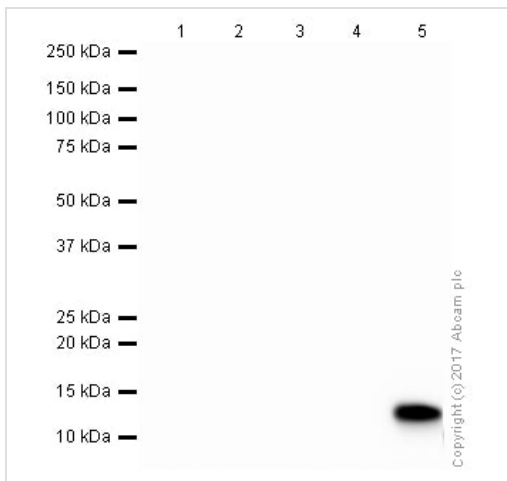


Chromatin was prepared from HeLa cells according to the Abcam X-ChIP protocol. Cells were fixed with formaldehyde for 10 minutes. The ChIP was performed with 25µg of chromatin, 5µg of ab17036 (blue), and 20µl of protein A/G sepharose beads. No antibody was added to the beads control (yellow). The immunoprecipitated 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.



IHC image of ab17036 staining in Human Hodgekin's Lymphoma formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ 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 ab17036, 1µg/ml, for 15 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.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Western blot - Anti-Histone H4 antibody [mAbcam 17036] - ChIP Grade (ab17036)

All lanes : Anti-Histone H4 antibody [mAbcam 17036] - ChIP Grade (ab17036) at 2 µg/ml

- Lane 1 :** Histone H1 Recombinant Protein
- Lane 2 :** Histone H2A Recombinant Protein
- Lane 3 :** Histone H2B Recombinant Protein
- Lane 4 :** Histone H3.1 Recombinant Protein
- Lane 5 :** Histone H4 Recombinant Protein

Lysates/proteins at 0.1 µg per lane.

Secondary

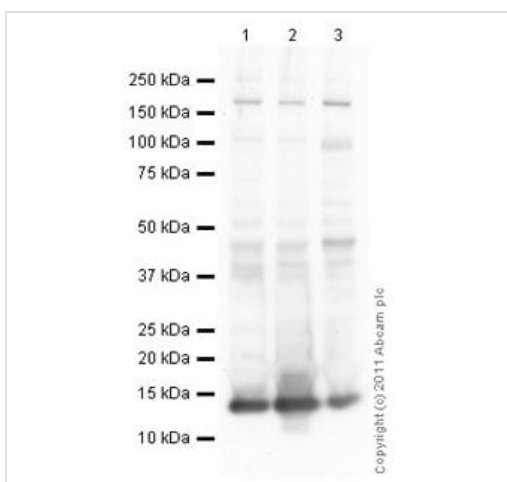
All lanes : Goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed (HRP) at 1/5000 dilution

Performed under reducing conditions.

Predicted band size: 11 kDa

Observed band size: 11 kDa

Exposure time: 30 seconds



Western blot - Anti-Histone H4 antibody [mAbcam 17036] - ChIP Grade (ab17036)

All lanes : Anti-Histone H4 antibody [mAbcam 17036] - ChIP Grade (ab17036) at 1 µg/ml

- Lane 1 :** NIH 3T3 (Mouse embryonic fibroblast cell line) Whole Cell Lysate
- 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 : 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: 11 kDa

Observed band size: 14 kDa

Exposure time: 1 minute

All lanes : Anti-Histone H4 antibody [mAbcam 17036] - ChIP

Grade (ab17036) at 5 µg/ml

Lane 1 : Calf Thymus Histone Preparation Nuclear Lysate at 0.5 µg

Lane 2 : HeLa Histone Preparation Nuclear Lysate at 2.5 µg

Secondary

All lanes : Goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

Performed under reducing conditions.

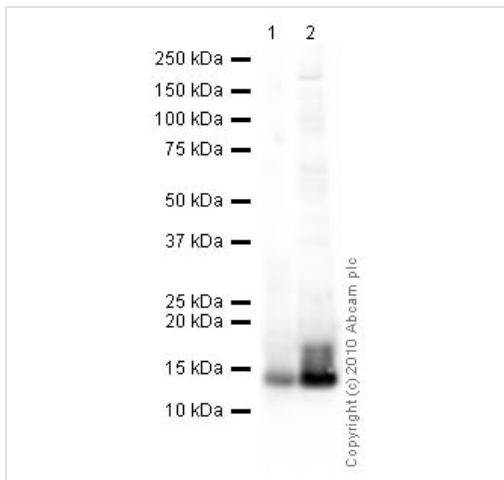
Predicted band size: 11 kDa

Observed band size: 14 kDa

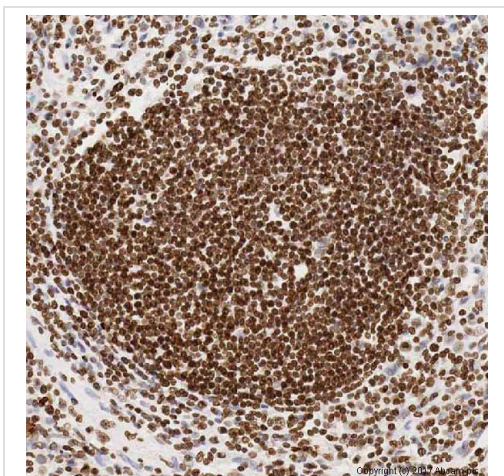
Exposure time: 1 minute

IHC image of Histone H4 staining in formalin fixed, paraffin embedded human Hodgkin's lymphoma tissue section*, performed on a Leica Bond™ 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 ab17036, 1 µg/ml, for 15 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.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

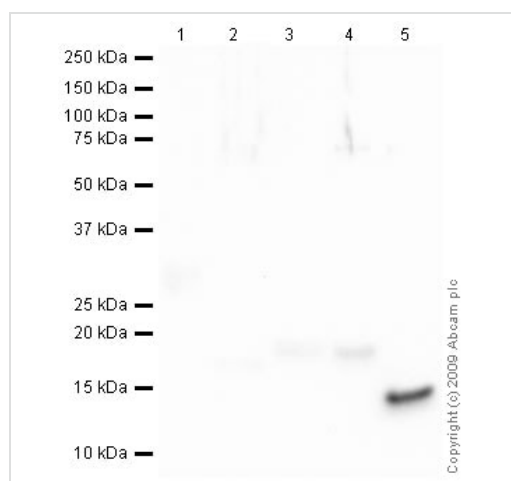


Western blot - Anti-Histone H4 antibody [mAbcam 17036] - ChIP Grade (ab17036)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Histone H4 antibody [mAbcam 17036] - ChIP Grade (ab17036)

*Tissue obtained from the Human Research Tissue Bank,
supported by the NIHR Cambridge Biomedical Research Centre



All lanes : Anti-Histone H4 antibody [mAbcam 17036] - ChIP
Grade (ab17036) at 5 µg/ml

Lane 1 : Histone H1 Recombinant Protein

Lane 2 : Histone H2A Recombinant Protein

Lane 3 : Histone H2B Recombinant Protein

Lane 4 : Histone H3.1 Recombinant Protein

Lane 5 : Histone H4 Recombinant Protein

Lysates/proteins at 0.1 µg per lane.

Secondary

All lanes : Goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed
(HRP) at 1/3000 dilution

Performed under reducing conditions.

Predicted band size: 11 kDa

Observed band size: 14 kDa

Exposure time: 30 seconds

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors