abcam

Product datasheet

Anti-Histone H4 (acetyl K91) antibody - ChIP Grade ab4627

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Overview

Product name	Anti-Histone H4 (acetyl K91) antibody - ChIP Grade
Description	Rabbit polyclonal to Histone H4 (acetyl K91) - ChIP Grade
Host species	Rabbit
Tested applications	**Suitable for:** IP, ChIP-sequencing, IHC-P, WB, ICC/IF, ChIP
Species reactivity	**Reacts with:** Mouse, Cow, Human, Saccharomyces cerevisiae **Predicted to work with:** Rat, Chicken, Pig, Xenopus laevis, Caenorhabditis elegans, Drosophila melanogaster, Duck
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
General notes	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

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 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.
Purity	Immunogen affinity purified
Clonality	Polyclonal

Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab4627 in the following tested applications.

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

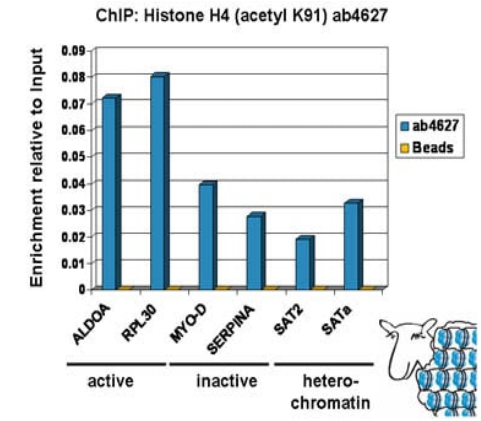
Application	Abreviews	Notes
IP	★★★★☆ (1)	Use at an assay dependent concentration.
ChIP-sequencing		Use at an assay dependent concentration.
IHC-P		Use a concentration of 1 µg/ml. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
WB	★★★★★ (5)	1/1000. Detects a band of approximately 11 kDa (predicted molecular weight: 12 kDa).
ICC/IF	★★★★☆ (2)	Use at an assay dependent concentration.
ChIP	★★★★★ (2)	Use at an assay dependent concentration.

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 PADI4 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.

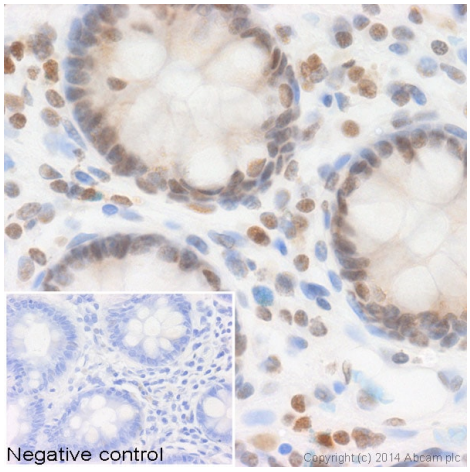
Cellular localization Nucleus. Chromosome.

Images



ChIP - Anti-Histone H4 (acetyl K91) antibody - ChIP Grade (ab4627)

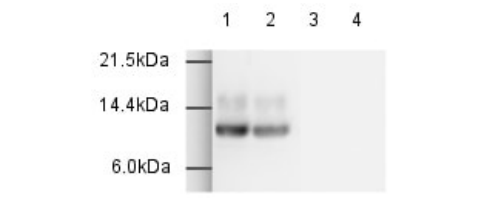
Chromatin was prepared from U2OS cells according to the Abcam X-ChIP protocol. Cells were fixed with formaldehyde for 10 min. The ChIP was performed with 25 µg of chromatin, 2 µg of ab4627 (blue), and 20 µl of Protein A/G sepharose beads. No antibody was added to the beads control (yellow). The immunoprecipitated 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.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Histone H4 (acetyl K91) antibody - ChIP Grade (ab4627)

IHC image of ab4627 staining Histone H2A.X in human colon formalin fixed paraffin embedded tissue sections, performed on a Leica Bond. 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 ab4627, 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. No primary antibody was used in the negative control (shown on the inset).

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 (acetyl K91) antibody - ChIP Grade (ab4627)

Lanes 1 & 3 : Anti-Histone H4 (acetyl K91) antibody - ChIP Grade (ab4627) at 1/500 dilution
Lanes 2 & 4 : Anti-Histone H4 (acetyl K91) antibody - ChIP Grade (ab4627) at 1/1000 dilution

Lanes 1-2 : Calf thymus histone prep.
Lanes 3-4 : Calf thymus histone prep. with Human Histone H4 (acetyl K91) peptide (**ab10112**) at 2 µg

Lysates/proteins at 1 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab6721**) at 1/2000 dilution

Predicted band size: 12 kDa

Rabbit polyclonal to Histone H4 acetyl K91 (ab4627). All lanes contain 1ug of calf thymus Histone prep.

Lane 1: ab4627 at 1/500
Lane 2: ab4627 at 1/1000
Lane 3: ab4627 at 1/500 + 2ug acetyl K91 blocking peptide (**ab10112**)
Lane 4: ab4627 at 1/1000 + 2ug acetyl K91 blocking peptide (**ab10112**)

Secondary antibody: Goat anti-rabbit (HRP) - **ab6721** at 1/2000

Predicted Molecular weight11KDa

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