


Product datasheet

Anti-Histone H4 (symmetric di methyl R3) antibody ab5823

★★★★★ [20 Abreviews](#) [91 References](#) [3 Images](#)

Overview

Product name	Anti-Histone H4 (symmetric di methyl R3) antibody
Description	Rabbit polyclonal to Histone H4 (symmetric di methyl R3)
Host species	Rabbit
Tested applications	Suitable for: IHC-P, PepArr, WB
Species reactivity	Reacts with: Cow, Human, Arabidopsis thaliana Predicted to work with: Mouse, Rat, Pig, Saccharomyces cerevisiae, Xenopus laevis, Drosophila melanogaster, Tobacco, Rainbow trout, Corn 
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers. (Peptide available as ab14791)
General notes	<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 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 ab5823 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	★★★★★ (3)	1/500. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.
PepArr		Use a concentration of 0.2 - 0.02 µg/ml.
WB	★★★★★ (7)	Use a concentration of 1 µg/ml. Detects a band of approximately 14 kDa (predicted molecular weight: 11.5 kDa).

Target

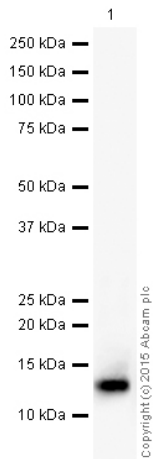
Function Core component of nucleosome. Nucleosomes wrap and compact DNA into chromatin, limiting DNA accessibility to the cellular machineries which require DNA as a template. Histones thereby play a central role in transcription regulation, DNA repair, DNA replication and chromosomal stability. DNA 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



Western blot - Anti-Histone H4 (symmetric di methyl R3) antibody (ab5823)

Anti-Histone H4 (symmetric di methyl R3) antibody (ab5823) at 1 µg
+ Calf Thymus Histone Preparation Nuclear Lysate at 0.5 µg

Secondary

Anti-Rabbit IgG VHH Single Domain (HRP) ([ab191866](#)) at 1/50000 dilution

Developed using the ECL technique.

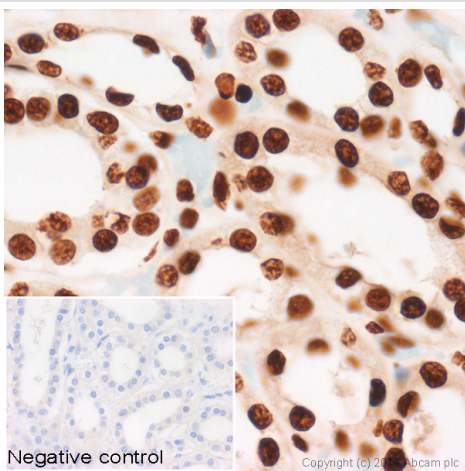
Performed under reducing conditions.

Predicted band size: 11.5 kDa

Observed band size: 14 kDa

Exposure time: 3 minutes

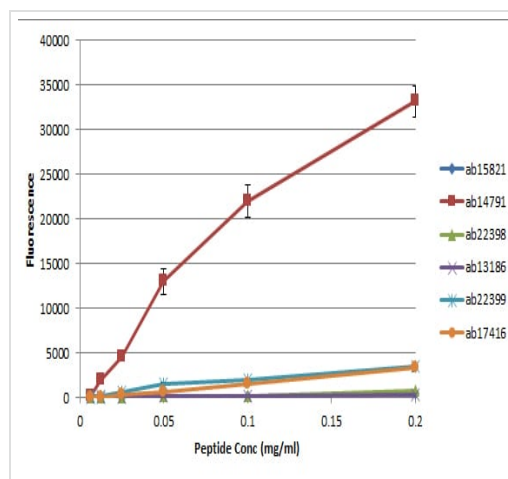
This blot was produced using a 4-12% Bis-tris gel under the MES buffer system. The gel was run at 200V for 35 minutes before being transferred onto a Nitrocellulose membrane at 30V for 70 minutes. The membrane was then blocked for an hour using 2% Bovine Serum Albumin before being incubated with ab5823 overnight at 4°C. Antibody binding was detected using an anti-rabbit antibody conjugated to HRP, and visualised using ECL development solution [ab133406](#).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Histone H4 (symmetric di methyl R3) antibody (ab5823)

IHC image of ab5823 staining Histone H4 (symmetric di methyl R3) in human kidney 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 ab5823, 5µg/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.



Peptide Array - Anti-Histone H4 (symmetric di methyl R3) antibody (ab5823)

All batches of ab5823 are tested in Peptide Array against peptides to different Histone H4 and H2A modifications. Six dilutions of each peptide are printed on to the Peptide Array in triplicate and results are averaged before being plotted on to a graph. Results show strong binding to Histone H4 - symmetric di methyl R3 peptide (**ab14791**), indicating that this antibody specifically recognises the Histone H4 - symmetric di methyl R3 modification.

ab14791 - Histone H4 - symmetric di methyl R3

ab17416 - Histone H4 asymmetric di methyl R3

ab15821 - Histone H4 - unmodified

ab22399 - Histone H2A symmetric di methyl R3

ab22398 - Histone H2A asymmetric di methyl R3

ab13186 - Histone H2A - unmodified

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

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