abcam

Product datasheet

HRP Anti-Histone H4 antibody [mAbcam 31830] ab197517

1 References 2 Images

Overview

Product name	HRP Anti-Histone H4 antibody [mAbcam 31830]
Description	HRP Mouse monoclonal [mAbcam 31830] to Histone H4
Host species	Mouse
Conjugation	HRP
Tested applications	**Suitable for:** WB, IHC-P
Species reactivity	**Reacts with:** Cow, Human, Recombinant fragment **Predicted to work with:** Mouse, Rat
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers. (Peptide available as **ab13843**)
Positive control	WB: Calf thymus histone preparation nuclear lysate. HeLa whole cell lysate (**ab150035**). Histone H4 recombinant protein. IHC-P: Normal human colon tissue.
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. Avoid freeze / thaw cycle. Store In the Dark.
Storage buffer	pH: 7.40 Preservative: 0.1% Proclin 300 Solution Constituents: 30% Glycerol (glycerin, glycerine), 1% BSA, PBS
Purity	Affinity purified
Clonality	Monoclonal

Clone number	mAbcam 31830
Myeloma	Sp2/0-Ag14
Isotype	IgG1
Light chain type	kappa

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab197517 in the following tested applications.

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

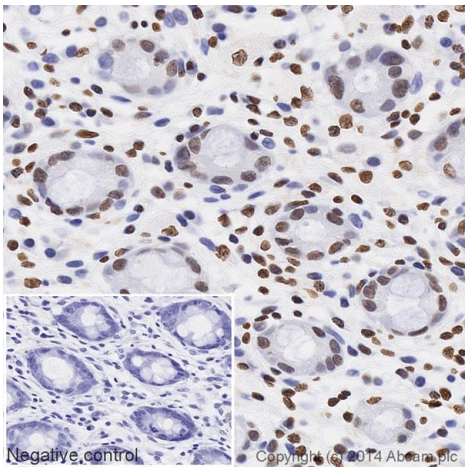
Application	Abreviews	Notes
WB		1/5000. Detects a band of approximately 14 kDa (predicted molecular weight: 11 kDa).Can be blocked with **Human Histone H4 peptide (ab13843)**.
IHC-P		1/100. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

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

Images

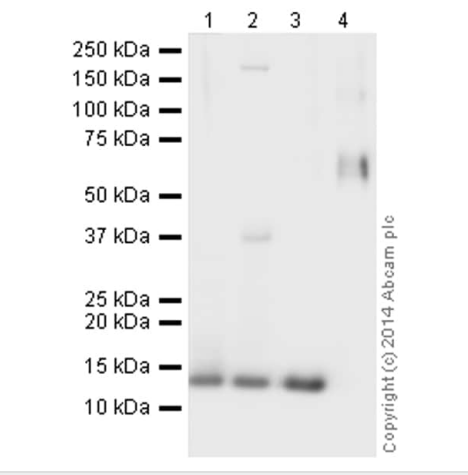


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - HRP Anti-Histone H4 antibody [mAbcam 31830] (ab197517)

IHC image of Histone H4 staining in a section of formalin-fixed paraffin-embedded normal human colon*, 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 20mins. The section was then incubated with ab197517 at 1/100 dilution, for 15 mins at room temperature. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset negative control image is taken from an identical assay without primary antibody.

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.

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



Western blot - HRP Anti-Histone H4 antibody [mAbcam 31830] (ab197517)

All lanes : HRP Anti-Histone H4 antibody [mAbcam 31830] (ab197517) at 1/5000 dilution

Lane 1 : Calf Thymus Histone Preparation Nuclear Lysate at 0.5 µg
Lane 2 : HeLa whole cell lysate (**ab150035**) at 10 µg
Lane 3 : Histone H4 Recombinant Protein at 0.1 µg
Lane 4 : Histone H3.1 Recombinant Protein at 0.1 µg

Developed using the ECL technique.

Performed under reducing conditions.

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

Exposure time: 30 seconds

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 ab197517 overnight at 4°C. Antibody binding was visualised using ECL development solution **ab133406**.

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