

## Product datasheet

# Anti-Histone H4 (acetyl K5 + K8 + K12 + K16) antibody [EPR16606] $\alpha$ b177790

Recombinant RabMAb

★★★★★ [2 Abreviews](#) [23 References](#) [8 Images](#)

### Overview

<b>Product name</b>	Anti-Histone H4 (acetyl K5 + K8 + K12 + K16) antibody [EPR16606]
<b>Description</b>	Rabbit monoclonal [EPR16606] to Histone H4 (acetyl K5 + K8 + K12 + K16)
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> PepArr, WB, IHC-P, ICC/IF
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Rat, Human
<b>Immunogen</b>	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
<b>Positive control</b>	WB: HeLa treated with Sodium butyrate extract lysates; NIH/3T3 treated with Trichostatin A whole cell lysate. IHC-P: Human, Mouse and Rat colon tissues. ICC/IF: HeLa cells.
<b>General notes</b>	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> <li>- High batch-to-batch consistency and reproducibility</li> <li>- Improved sensitivity and specificity</li> <li>- Long-term security of supply</li> <li>- Animal-free production</li> </ul> <p>For more information <a href="#">see here</a>.</p> <p>Our RabMAb<sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to <a href="#">RabMAb<sup>®</sup> patents</a>.</p>

### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol, 0.05% BSA
<b>Purity</b>	Protein A purified
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	EPR16606
<b>Isotype</b>	IgG

## Applications

### The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab177790 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
PepArr		Use at an assay dependent concentration.
WB	★★★★★ (1)	1/20000. Detects a band of approximately 11 kDa (predicted molecular weight: 11 kDa).
IHC-P	★★★★★ (1)	1/1000. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
ICC/IF		1/5000.

## 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.

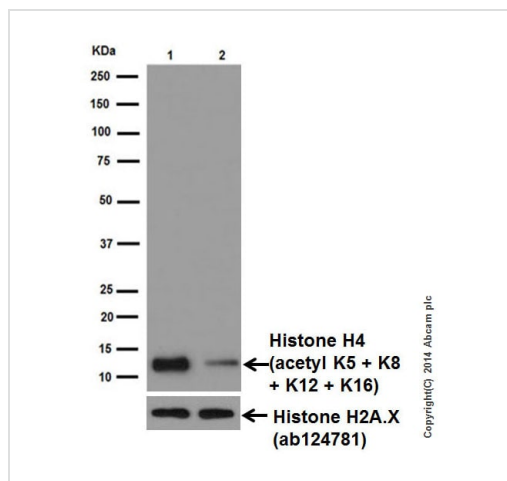
### Post-translational modifications

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 PAD14 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 (acetyl K5 + K8 + K12 + K16) antibody [EPR16606] (ab177790)

**All lanes :** Anti-Histone H4 (acetyl K5 + K8 + K12 + K16) antibody [EPR16606] (ab177790) at 1/20000 dilution

**Lane 1 :** HeLa treated with Sodium butyrate extract lysates

**Lane 2 :** Untreated HeLa extract lysates

Lysates/proteins at 10 µg per lane.

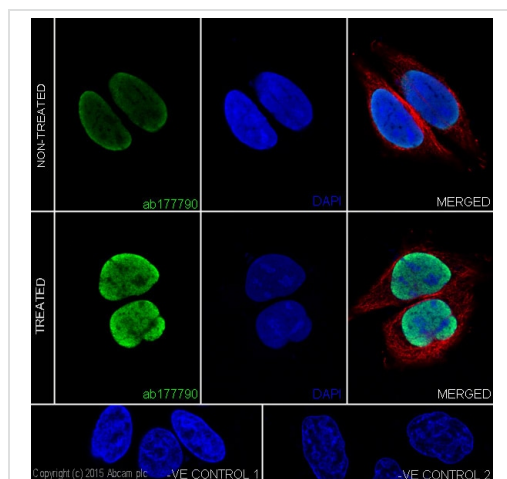
## Secondary

**All lanes :** Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

**Predicted band size:** 11 kDa

**Observed band size:** 11 kDa

Blocking/Dilution buffer: 5% NFDM/TBST.

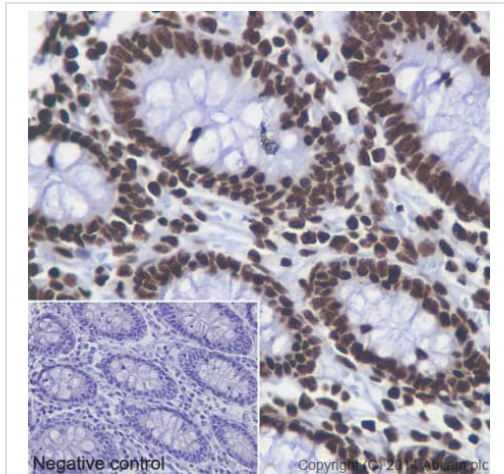


Immunocytochemistry/ Immunofluorescence - Anti-Histone H4 (acetyl K5 + K8 + K12 + K16) antibody [EPR16606] (ab177790)

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa cells labeling Histone H4 (acetyl K5 + K8 + K12 + K16) with ab177790 at 1/5000 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (**ab150077**) secondary antibody at 1/400 dilution (green). Nuclear staining on HeLa cell line is observed. The expression increased after treatment with TSA (50 µg/ml) for 4 hours. The nuclear counter stain is DAPI (blue). Tubulin is detected with **ab7291** (anti-Tubulin mouse mAb) at 1/500 dilution and **ab150120** (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).

The negative controls are as follows:

1. ab177790 at 1/15000 dilution followed by **ab150120** (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.
2. **ab7291** (anti-Tubulin mouse mAb) at 1/500 dilution followed by **ab150077** (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/400 dilution.

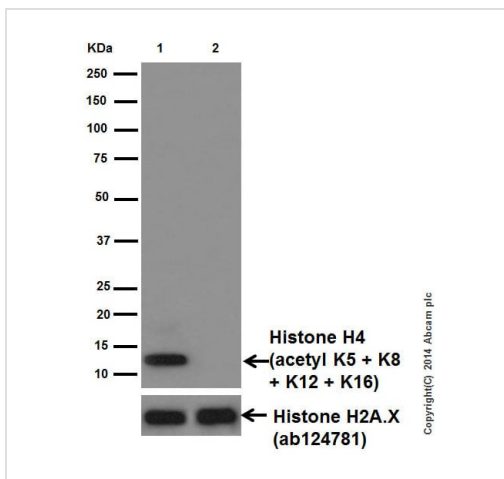


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Histone H4 (acetyl K5 + K8 + K12 + K16) antibody [EPR16606] (ab177790)

Immunohistochemical analysis of paraffin-embedded Human colon tissue labeling Histone H4 (acetyl K5 + K8 + K12 + K16) with ab177790 at 1/1000 dilution, followed by prediluted Goat Anti-Rabbit IgG H&L (HRP). Nucleus staining on glandular epithelium of Human colon tissue is observed. Counter stained with Hematoxylin.

Negative control: Using PBS instead of primary ab, secondary ab is prediluted Goat Anti-Rabbit IgG H&L (HRP).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Western blot - Anti-Histone H4 (acetyl K5 + K8 + K12 + K16) antibody [EPR16606] (ab177790)

**All lanes :** Anti-Histone H4 (acetyl K5 + K8 + K12 + K16) antibody [EPR16606] (ab177790) at 1/100000 dilution

**Lane 1 :** NIH/3T3 treated with Trichostatin A whole cell lysates

**Lane 2 :** Untreated NIH/3T3 whole cell lysates

Lysates/proteins at 10 µg per lane.

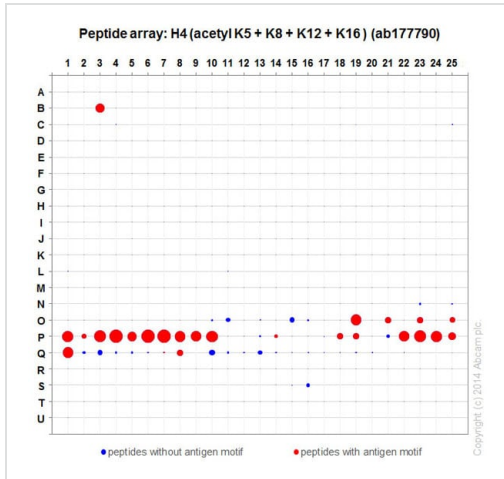
### Secondary

**All lanes :** Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

**Predicted band size:** 11 kDa

**Observed band size:** 11 kDa

Blocking/Dilution buffer: 5% NFDM/TBST.

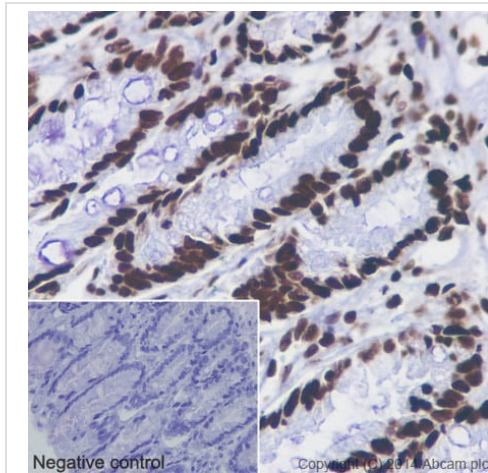


Peptide Array - Anti-Histone H4 (acetyl K5 + K8 + K12 + K16) antibody [EPR16606] (ab177790)

ab177790 was tested in Peptide Array against 501 different modified and unmodified histone peptides; each peptide is printed on the array at six concentrations (each in triplicate).

Circle area represents affinity between the antibody and a peptide: all antigen-containing peptides are displayed as red circles, all other peptides as blue circles. The affinity is calculated as area under curve when antibody binding values are plotted against the corresponding peptide concentration. Each circle area is normalized to the peptide with the strongest affinity.

The complete dataset, including full list of all peptides and information on the position of each peptide in the diagram, can be downloaded [here](#).

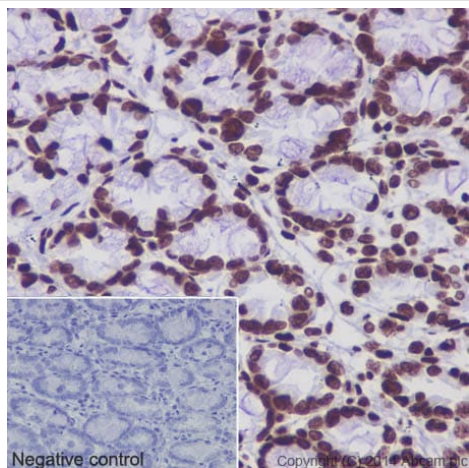


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Histone H4 (acetyl K5 + K8 + K12 + K16) antibody [EPR16606] (ab177790)

Immunohistochemical analysis of paraffin-embedded Mouse colon tissue labeling Histone H4 (acetyl K5 + K8 + K12 + K16) with ab177790 at 1/1000 dilution, followed by prediluted Goat Anti-Rabbit IgG H&L (HRP). Nucleus staining on glandular epithelium of mouse colon tissue is observed. Counter stained with Hematoxylin.

Negative control: Using PBS instead of primary ab, secondary ab is prediluted Goat Anti-Rabbit IgG H&L (HRP).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemical analysis of paraffin-embedded Rat colon tissue labeling Histone H4 (acetyl K5 + K8 + K12 + K16) with ab177790 at 1/1000 dilution, followed by prediluted Goat Anti-Rabbit IgG H&L (HRP). Nucleus staining on glandular epithelium of rat colon tissue is observed. Counter stained with Hematoxylin.

Negative control: Using PBS instead of primary ab, secondary ab is prediluted Goat Anti-Rabbit IgG H&L (HRP).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Histone H4 (acetyl K5 + K8 + K12 + K16) antibody [EPR16606] (ab177790)

#### Why choose a recombinant antibody?



**Research with confidence**  
Consistent and reproducible results



**Long-term and scalable supply**  
Recombinant technology



**Success from the first experiment**  
Confirmed specificity



**Ethical standards compliant**  
Animal-free production

Anti-Histone H4 (acetyl K5 + K8 + K12 + K16) antibody [EPR16606] (ab177790)

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

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