

Product datasheet

Anti-Histone H4 (tri methyl K20) antibody [EPR17001(2)] - ChIP Grade ab177190

Recombinant RabMAb

★★★★★ [4 Abreviews](#) [3 References](#) [7 Images](#)

Overview

Product name	Anti-Histone H4 (tri methyl K20) antibody [EPR17001(2)] - ChIP Grade
Description	Rabbit monoclonal [EPR17001(2)] to Histone H4 (tri methyl K20) - ChIP Grade
Host species	Rabbit
Tested applications	Suitable for: IHC-P, WB, Dot blot, ChIP
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: HeLa and NIH/3T3 cell lysates. IHC-P: Human, mouse and rat colon tissues. ICC/IF: HeLa cells. ChIP: Chromatin prepared from HeLa cells.
General notes	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none">- High batch-to-batch consistency and reproducibility- Improved sensitivity and specificity- Long-term security of supply- Animal-free production <p>For more information see here.</p> <p>Our RabMAb[®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb[®] patents.</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 long term. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR17001(2)
Isotype	IgG

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab177190 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)	1/8000. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
WB		1/1000. Detects a band of approximately 11 kDa (predicted molecular weight: 11 kDa).
Dot blot		1/1000.
ChIP	★★★★★ (2)	Use 2 µg for 25 µg of chromatin.

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.

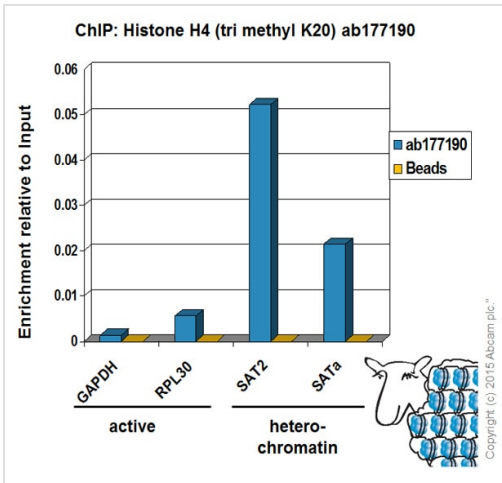
Post-translational modifications

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.

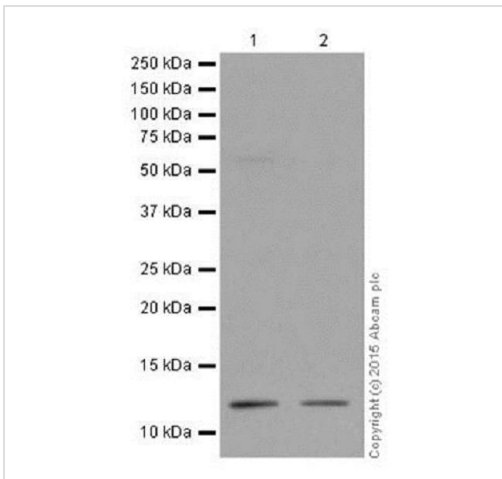
Cellular localization

Nucleus. Chromosome.

Images



ChIP - Anti-Histone H4 (tri methyl K20) antibody
 [EPR17001(2)] - ChIP Grade (ab177190)



Western blot - Anti-Histone H4 (tri methyl K20) antibody [EPR17001(2)] - ChIP Grade (ab177190)

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, 2µg of ab177190 (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 loci and Sybr green approach for heterochromatic loci). Primers and probes are located in the first kb of the transcribed region.

All lanes : Anti-Histone H4 (tri methyl K20) antibody
 [EPR17001(2)] - ChIP Grade (ab177190) at 1/1000 dilution

Lane 1 : HeLa (Human epithelial cells from cervix adenocarcinoma) cell lysate

Lane 2 : NIH 3T3 (Mouse embryo fibroblast cells) cell lysate

Lysates/proteins at 10 µg per lane.

Secondary

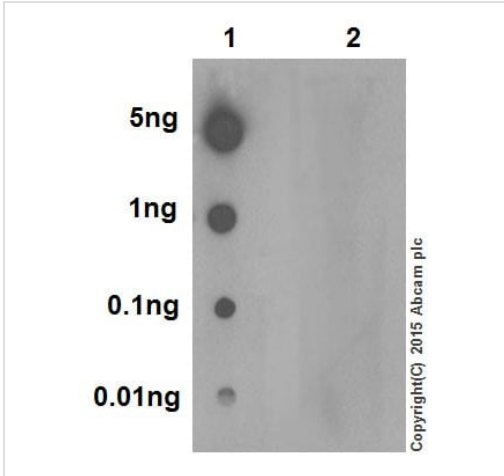
All lanes : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 11 kDa

Observed band size: 11 kDa

Exposure time: 1 minute

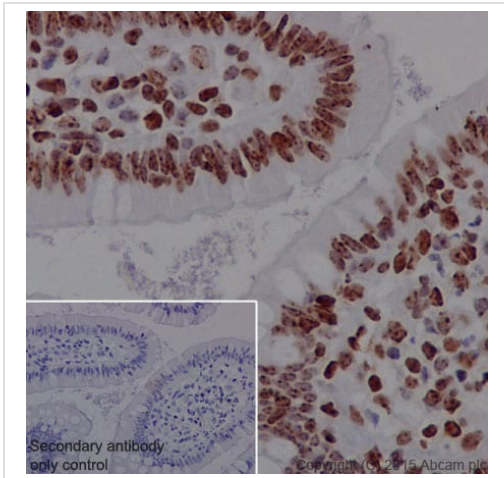
5% NFDm/TBST: Blocking and diluting buffer.



Dot Blot - Anti-Histone H4 (tri methyl K20) antibody [EPR17001(2)] - ChIP Grade (ab177190)

Dot blot analysis of Histone H4 (tri methyl K20) peptide(aa16-25) (Lane 1) and unmodified Histone H4 peptide (aa 16-25) (Lane 2) labeled using ab177190 at 1/1000 dilution, followed by Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated secondary antibody at 1/1000 dilution.

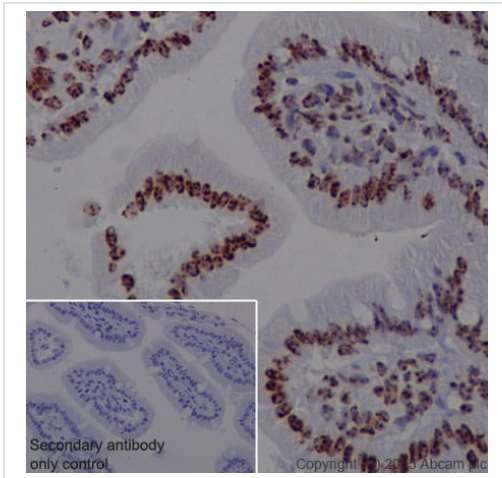
Blocking/Dilution buffer: 5% NFDM/TBST.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Histone H4 (tri methyl K20) antibody [EPR17001(2)] - ChIP Grade (ab177190)

Immunohistochemical analysis of paraffin-embedded Human colon tissue labeling Histone H4 (tri methyl K20) using ab177190 at 1/8000 dilution. A Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) was used as secondary at 1/500 dilution. Nucleus staining on Human colon was observed. Counterstained with Hematoxylin. Negative control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/500 dilution.

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

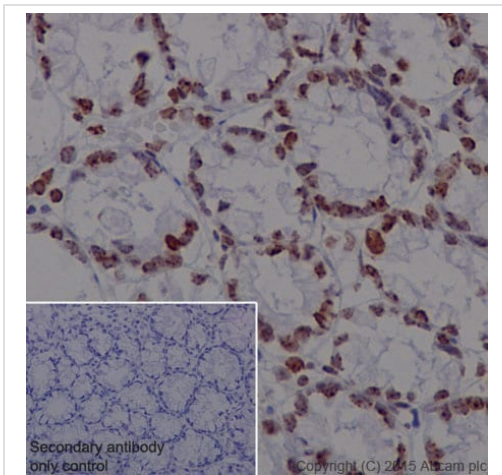


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Histone H4 (tri methyl K20) antibody [EPR17001(2)] - ChIP Grade (ab177190)

Immunohistochemical analysis of paraffin-embedded mouse colon tissue labeling Histone H4 (tri methyl K20) using ab177190 at 1/8000 dilution. A Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) was used as secondary at 1/500 dilution. Nucleus staining on mouse colon was observed. Counterstained with Hematoxylin.

Negative control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/500 dilution.

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 (tri methyl K20) antibody [EPR17001(2)] - ChIP Grade (ab177190)

Immunohistochemical analysis of paraffin-embedded rat colon tissue labeling Histone H4 (tri methyl K20) using ab177190 at 1/8000 dilution. A Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) was used as secondary at 1/500 dilution. Nucleus staining on rat colon was observed. Counterstained with Hematoxylin.

Negative control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/500 dilution.

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

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 (tri methyl K20) antibody
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