

Product datasheet

# Anti-Histone H4 (tri methyl K20) antibody - ChIP Grade ab195479

6 Images

Overview

---

<b>Product name</b>	Anti-Histone H4 (tri methyl K20) antibody - ChIP Grade
<b>Description</b>	Rabbit polyclonal to Histone H4 (tri methyl K20) - ChIP Grade
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> CHIPseq, WB, ICC/IF, Dot blot, ChIP
<b>Species reactivity</b>	<b>Reacts with:</b> Human <b>Predicted to work with:</b> Mouse 
<b>Immunogen</b>	Synthetic peptide corresponding to Human Histone H4 (tri methyl K20) conjugated to keyhole limpet haemocyanin. Database link: <a href="#">P62805</a>
<b>Positive control</b>	Chromatin prepared from HeLa cells; Chromatin prepared from HeLaS3 cells; HeLa histone extract; U2OS cells.

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>	Preservatives: 0.05% Sodium azide, 0.05% Proclin Constituent: 99% PBS
<b>Purity</b>	Protein A purified
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	IgG

Applications

---

Our [Abpromise guarantee](#) covers the use of **ab195479** 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
CHIPseq		Use 1-2µg for 10 <sup>6</sup> cells.
WB		1/1000. Predicted molecular weight: 11 kDa.
ICC/IF		1/300.
Dot blot		1/20000.
ChIP		Use 1-2µg for 10 <sup>6</sup> cells.

## 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.

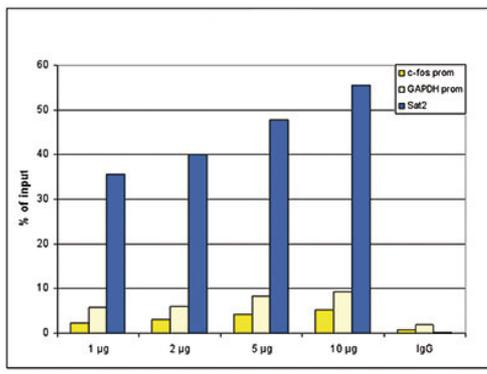
### Post-translational modifications

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.

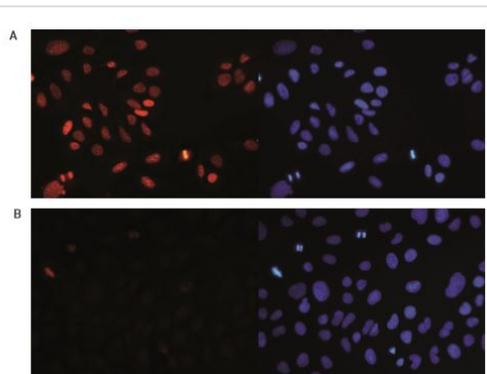
## Images



ChIP - Anti-Histone H4 (tri methyl K20) antibody - ChIP Grade (ab195479)

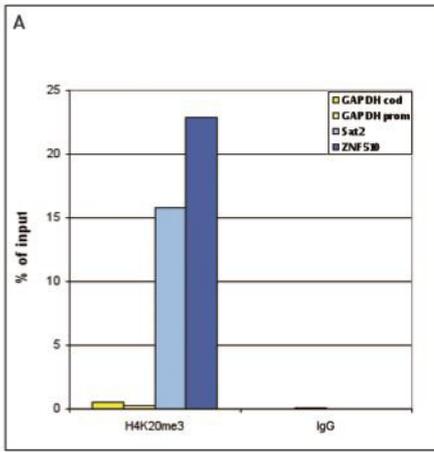
ChIP results obtained with ab195479 directed against Histone H4 (tri methyl K20).

ChIP assays were performed using human HeLa cells, ab195479 and optimized PCR primer sets for qPCR. ChIP was performed with sheared chromatin from 1 million cells. A titration of the antibody consisting of 1, 2, 5, and 10 µg per ChIP experiment was analysed. IgG (1 µg/IP) was used as negative IP control. QPCR was performed with primers for promoters of the active genes c-fos and GAPDH, used as negative controls, and for the Sat2 satellite repeat region used as a positive control. Figure shows the recovery, expressed as a % of input (the relative amount of immunoprecipitated DNA compared to input DNA after qPCR analysis).



Immunocytochemistry/ Immunofluorescence - Anti-Histone H4 (tri methyl K20) antibody - ChIP Grade (ab195479)

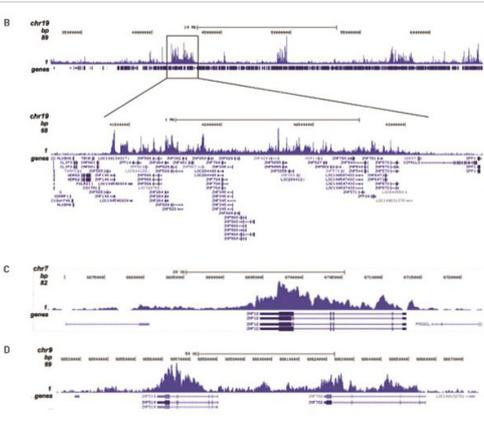
Immunofluorescent analysis of Human osteosarcoma (U2OS) cells labeling Histone H4 (tri methyl K20) with ab195479 at 1/300 dilution. Cells were fixed with ice cold methanol for 10 minutes and blocked with PBS/TX-100 containing 5% normal goat serum. Figure A: cells were immunofluorescently labeled with ab195479 diluted 1/300 in blocking solution followed by an anti-rabbit antibody conjugated to Alexa568 or with DAPI (right), which specifically labels DNA. Figure B: staining of the cells with the ab195479 after incubation of the antibody with blocking peptide (concentration: 5 ng/µl).



ChIPseq - Anti-Histone H4 (tri methyl K20) antibody  
- ChIP Grade (ab195479)

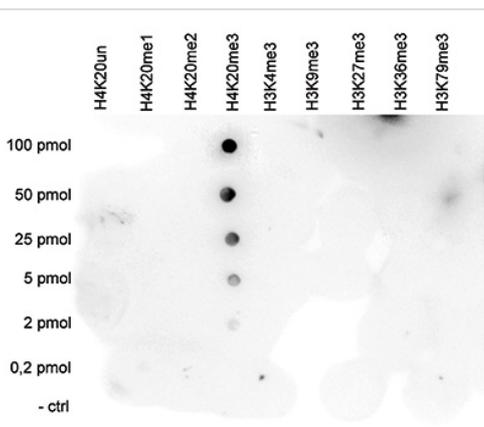
ChIPseq results obtained with ab195479 directed against Histone H4 (tri methyl K20).

ChIP was performed with 1 µg of ab195479 on sheared chromatin from 1 million HeLaS3 cells. The IP'd DNA was analysed by QPCR with optimized PCR primer pairs for the promoter and coding region of the active GAPDH gene, for the coding region of the ZNF510 gene and for the Sat2 satellite repeat (figure A). The IP'd DNA was subsequently analysed on an Illumina Genome Analyzer. Library preparation, cluster generation and sequencing were performed according to the manufacturer's instructions. The 36 bp tags were aligned to the human genome using the ELAND algorithm.



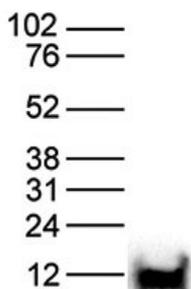
ChIPseq - Anti-Histone H4 (tri methyl K20) antibody  
- ChIP Grade (ab195479)

The IP'd DNA was subsequently analysed on an Illumina Genome Analyzer. Library preparation, cluster generation and sequencing were performed according to the manufacturer's instructions. The 36 bp tags were aligned to the human genome using the ELAND algorithm. Figure B shows the signal distribution along the long arm of chromosome 19 and a zoomin to an enriched region containing several ZNF repeat genes. Figure C and D show the enrichment at ZNF12 and ZNF510 on chromosome 7 and 9, respectively. These results clearly show an enrichment of H4K20me3 at ZNF repeat genes.



Dot Blot - Anti-Histone H4 (tri methyl K20) antibody -  
ChIP Grade (ab195479)

Dot Blot analysis was performed to test the cross reactivity of ab195479 against Histone H4 (tri methyl K20) with peptides containing other histone modifications and the unmodified H4K20. One hundred to 0.2 pmol of the respective peptides were spotted on a membrane. The antibody was used at a dilution of 1/20000. Figure shows a high specificity of the antibody for the modification of interest.



Western blot - Anti-Histone H4 (tri methyl K20) antibody - ChIP Grade (ab195479)

Anti-Histone H4 (tri methyl K20) antibody - ChIP Grade (ab195479)  
at 1/1000 dilution + HeLa histone extract at 15 µg

**Predicted band size:** 11 kDa

The antibody was diluted in TBS-Tween containing 5% skimmed milk.

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

### Our Abpromise to you: Quality guaranteed and expert technical support

---

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

### Terms and conditions

---

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors