

Product datasheet

Anti-Histone H2A.Z antibody [EPR18090] - ChIP Grade ab188314

Recombinant RabMAb

10 Images

Overview

Product name	Anti-Histone H2A.Z antibody [EPR18090] - ChIP Grade
Description	Rabbit monoclonal [EPR18090] to Histone H2A.Z - ChIP Grade
Host species	Rabbit
Tested applications	Suitable for: ChIP, PepArr, ICC/IF, WB, IHC-P, ChIP-sequencing
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Synthetic peptide within Human Histone H2A.Z aa 1-100. The exact sequence is proprietary. Database link: P0C0S5
Positive control	WB: HeLa and NIH/3T3 whole cell lysates. IHC-P: Human, mouse and rat colon tissues. ICC/IF: HeLa cells. ChIP: HeLa cells.

General notes

This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free production

For more information [see here](#).

Our RabMAb[®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to [RabMAb[®] patents](#).

Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough.

Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.

We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications & species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise[™] guarantee.

In preparation for this, we have started to update the applications & species that this product is

Abpromise guaranteed for.

We are also updating the applications & species that this product has been “predicted to work with,” however this information is not covered by our Abpromise guarantee.

Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.

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, as well as 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 long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR18090
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab188314** 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
ChIP		Use 2 µg for 25 µg of chromatin.
PepArr		Use a concentration of 0.1 µg/ml.
ICC/IF		1/1000.
WB		1/10000. Detects a band of approximately 14 kDa (predicted molecular weight: 14 kDa).
IHC-P		1/4000. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
ChIP-sequencing		Use at an assay dependent concentration.

Target

Function

Variant histone H2A which replaces conventional H2A in a subset of nucleosomes. 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. May be involved in the formation of constitutive heterochromatin. May be required for chromosome segregation during cell division.

Sequence similarities

Belongs to the histone H2A family.

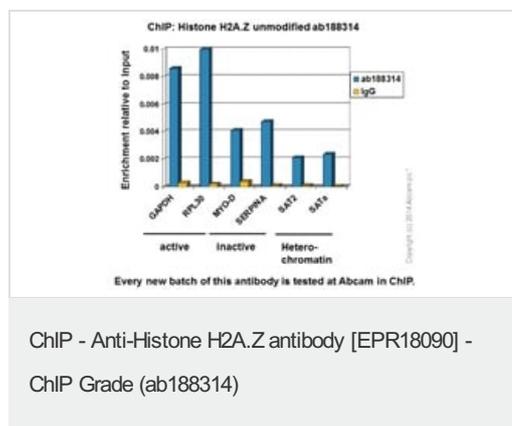
Post-translational modifications

Monoubiquitination of Lys-122 gives a specific tag for epigenetic transcriptional repression. Acetylated on Lys-5, Lys-8 and Lys-12 during interphase. Acetylation disappears at mitosis. Methylated on Lys-5 and Lys-8 by SETD6. SETD6 predominantly methylates Lys-8, lys-5 being a possible secondary site. Not phosphorylated.

Cellular localization

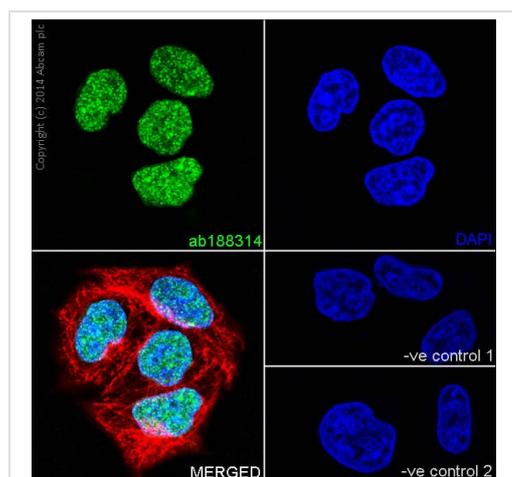
Nucleus. Chromosome.

Images



ChIP - Anti-Histone H2A.Z antibody [EPR18090] - ChIP Grade (ab188314)

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 ab188314 (blue), and 20µl of Anti rabbit IgG sepharose beads. 2µg of rabbit normal IgG was added to the beads control (yellow). The immunoprecipitated DNA was quantified by real time PCR (Sybr green approach).

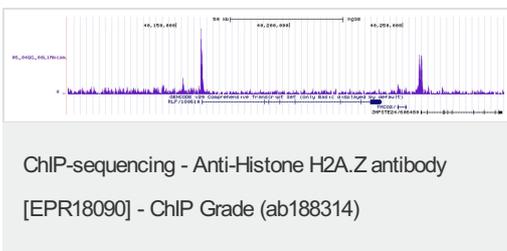


Immunocytochemistry/ Immunofluorescence - Anti-Histone H2A.Z antibody [EPR18090] - ChIP Grade (ab188314)

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa (Human epithelial cells from cervix adenocarcinoma) cells labeling Histone H2A.Z with ab188314 at 1/1000 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/500 dilution (green). Confocal image showing nuclear staining on HeLa cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).

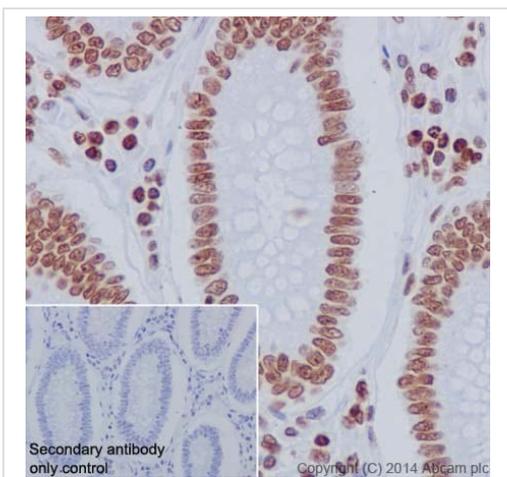
The negative controls are as follows:

- ve control 1: ab188314 at 1/1000 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.
- ve control 2: ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/500 dilution.



Chromatin was prepared from HeLa cells. Cells were fixed with 1% formaldehyde for 10 minutes. ChIP was performed with 30 µg of chromatin and 4 µg of [ab223152](#) [EPR18090]. ChIP DNA was sequenced on the Illumina NextSeq 500 to a depth of 10 million sequence tags. The image shows binding across a region of chromosome 1 (RLF gene). ChIP-Seq validation performed by Active Motif, Carlsbad, CA

This image was generated using [ab223152](#). The same clone but a different buffer formulation.

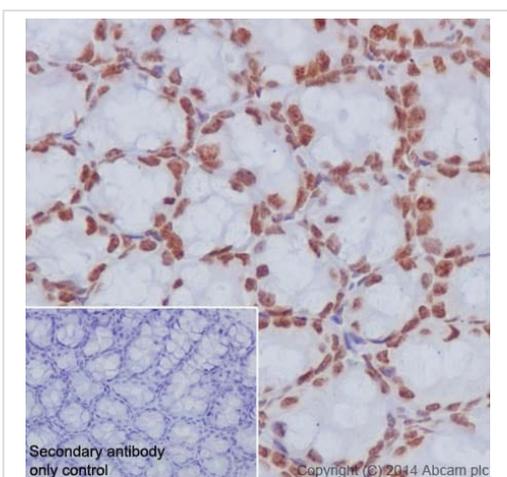


Immunohistochemical analysis of paraffin-embedded Human colon tissue labeling Histone H2A.Z with ab188314 at 1/4000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) secondary antibody at 1/500 dilution. Nucleus staining on Human colon tissue is observed. Counter stained with Hematoxylin.

Secondary antibody only 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 H2A.Z antibody [EPR18090] - ChIP Grade (ab188314)

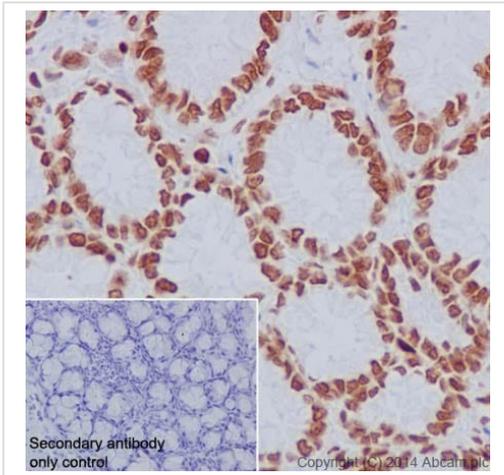


Immunohistochemical analysis of paraffin-embedded Mouse colon tissue labeling Histone H2A.Z with ab188314 at 1/4000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) secondary antibody at 1/500 dilution. Nucleus staining on mouse colon tissue is observed. Counter stained with Hematoxylin.

Secondary antibody only 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 H2A.Z antibody [EPR18090] - ChIP Grade (ab188314)

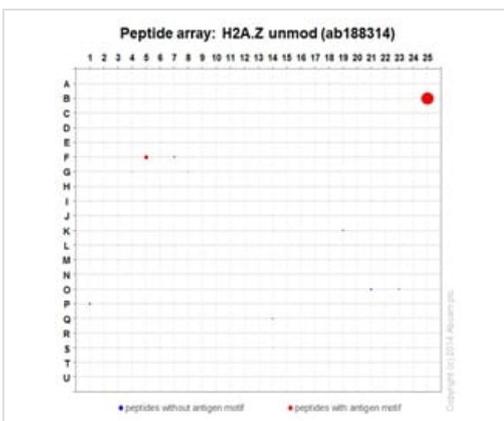


Immunohistochemical analysis of paraffin-embedded Rat colon tissue labeling Histone H2A.Z with ab188314 at 1/4000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) secondary antibody at 1/500 dilution. Nucleus staining on rat colon tissue is observed. Counter stained with Hematoxylin.

Secondary antibody only 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 H2A.Z antibody [EPR18090] - ChIP Grade (ab188314)

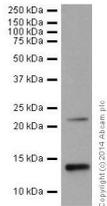


ab188314 was tested in Peptide Array against 501 different modified and unmodified histone peptides; each peptide is printed on the array at six concentrations (each in triplicate).

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.

Peptide Array - Anti-Histone H2A.Z antibody [EPR18090] - ChIP Grade (ab188314)

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



Western blot - Anti-Histone H2A.Z antibody [EPR18090] - ChIP Grade (ab188314)

Anti-Histone H2A.Z antibody [EPR18090] - ChIP Grade (ab188314) at 1/10000 dilution + HeLa (Human epithelial cells from cervix adenocarcinoma) whole cell lysate at 10 µg

Secondary

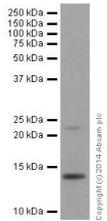
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 14 kDa

Observed band size: 14 kDa

Exposure time: 15 seconds

Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot - Anti-Histone H2A.Z antibody [EPR18090] - ChIP Grade (ab188314)

Anti-Histone H2A.Z antibody [EPR18090] - ChIP Grade (ab188314) at 1/10000 dilution + NIH/3T3 (Mouse embryo fibroblast cells) whole cell lysate at 10 µg

Secondary

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

Predicted band size: 14 kDa

Observed band size: 14 kDa

Exposure time: 10 seconds

Blocking/Dilution buffer: 5% NFDM/TBST.

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 H2A.Z antibody [EPR18090] - ChIP
Grade (ab188314)

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

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