

Product datasheet

Anti-Histone H2A (symmetric di methyl R29) antibody ab129208

[3 Images](#)

Overview

Product name	Anti-Histone H2A (symmetric di methyl R29) antibody
Description	Rabbit polyclonal to Histone H2A (symmetric di methyl R29)
Host species	Rabbit
Tested applications	Suitable for: WB, ICC/IF, PepArr
Species reactivity	Reacts with: Cow, Human Predicted to work with: Mouse, Rat, Chicken, Zebrafish 
Immunogen	Synthetic peptide corresponding to Human Histone H2A aa 1-100 conjugated to keyhole limpet haemocyanin. (Peptide available as ab166689)
Positive control	WB: Calf thymus histone preparation nuclear lysate. ICC/IF: formaldehyde fixed HepG2 cells.
General notes	<p>Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough.</p> <p>Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.</p> <p>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.</p> <p>In preparation for this, we have started to update the applications & species that this product is Abpromise guaranteed for.</p> <p>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.</p> <p>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.</p> <p>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.</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 or -80°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.40 Preservative: 0.02% Sodium azide Constituent: PBS Batches of this product that have a concentration < 1mg/ml may have BSA added as a stabilising agent. If you would like information about the formulation of a specific lot, please contact our scientific support team who will be happy to help.
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab129208** 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		Use a concentration of 1 µg/ml. Detects a band of approximately 17 kDa (predicted molecular weight: 14 kDa).
ICC/IF		Use a concentration of 1 µg/ml.
PepArr		Use a concentration of 0.2 - 0.02 µg/ml.

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 H2A family.

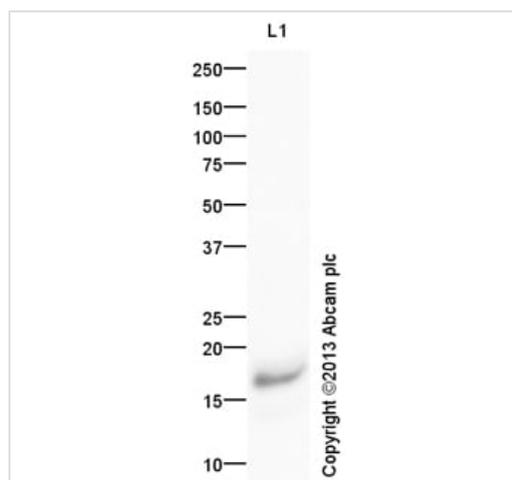
Post-translational modifications The chromatin-associated form is phosphorylated on Thr-121 during mitosis. Deiminated on Arg-4 in granulocytes upon calcium entry. Monoubiquitination of Lys-120 by RING1 and RNF2/RING2 complex gives a specific tag for epigenetic transcriptional repression and participates in X chromosome inactivation of female mammals. It is involved in the initiation of both imprinted and random X inactivation. Ubiquitinated H2A is enriched in inactive X chromosome chromatin. Ubiquitination of H2A functions downstream of methylation of 'Lys-27' of histone H3. Monoubiquitination of Lys-120 by RNF2/RING2 can also be induced by ultraviolet and may be involved in DNA repair. Following DNA double-strand breaks (DSBs), it is ubiquitinated through 'Lys-63' linkage of ubiquitin moieties by the E2 ligase UBE2N and the E3 ligases RNF8 and RNF168, leading to the

recruitment of repair proteins to sites of DNA damage. Monoubiquitination and ionizing radiation-induced 'Lys-63'-linked ubiquitination are distinct events. Phosphorylation on Ser-2 is enhanced during mitosis. Phosphorylation on Ser-2 by RPS6KA5/MSK1 directly represses transcription. Acetylation of H3 inhibits Ser-2 phosphorylation by RPS6KA5/MSK1. Symmetric dimethylation on Arg-4 by the PRDM1/PRMT5 complex may play a crucial role in the germ-cell lineage.

Cellular localization

Nucleus. Chromosome.

Images



Western blot - Anti-Histone H2A (symmetric di methyl R29) antibody (ab129208)

Anti-Histone H2A (symmetric di methyl R29) antibody (ab129208) at 1 µg/ml + Calf Thymus Histone Preparation Nuclear Lysate at 0.25 µg

Secondary

Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/10000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

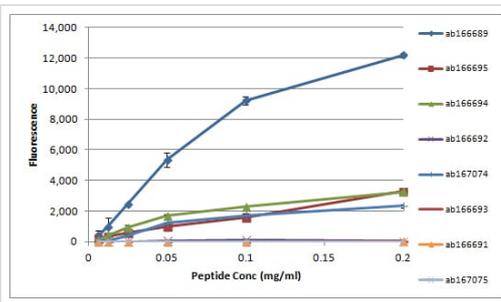
Predicted band size: 14 kDa

Observed band size: 17 kDa

[why is the actual band size different from the predicted?](#)

Exposure time: 10 seconds

This blot was produced using a 10% 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 5% Bovine Serum Albumin before being incubated with ab129208 overnight at 4°C. Antibody binding was detected using an anti-rabbit antibody conjugated to HRP, and visualised using ECL development solution.



Peptide Array - Anti-Histone H2A (symmetric di methyl R29) antibody (ab129208)

All batches of ab129208 are tested in Peptide Array against peptides to different Histone H2A modifications. Six dilutions of each peptide are printed on to the Peptide Array in triplicate and results are averaged before being plotted on to a graph. Results show strong binding to Histone H2A - symmetric di methyl R29 peptide ([ab166689](#)), indicating that this antibody specifically recognises the Histone H2A - symmetric di methyl R29 modification.

[ab166689](#) - Histone H2A - symmetric di methyl R29

[ab166695](#) - Histone H2A - asymmetric di methyl R29

[ab166694](#) - Histone H2A - mono methyl R29

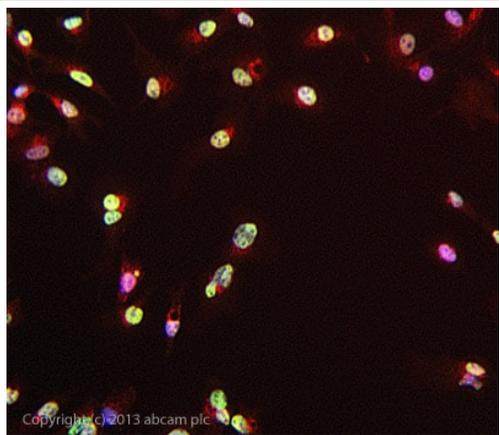
[ab167074](#) - Histone H2A - unmodified R29

[ab166692](#) - Histone H2A - symmetric di methyl R11

[ab166693](#) - Histone H2A - asymmetric di methyl R11

[ab166691](#) - Histone H2A - mono methyl R11

[ab167075](#) - Histone H2A - unmodified R11



Immunocytochemistry/ Immunofluorescence - Anti-Histone H2A (symmetric di methyl R29) antibody (ab129208)

ICC/IF image of ab129208 stained HepG2 cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody ab129208 at 1µg/ml overnight at +4°C. The secondary antibody (green) was DyLight® 488 goat anti- rabbit (ab96899) IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.

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

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