abcam

ab238663

Anti-Histone H4 antibody [mAbcam 31830] - ChIP Grade - BSA and Azide free

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.5 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	mAbcam 31830
Purification technique	Affinity purification
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	0.05-1 µg/mL

Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Expected

Species	Cow
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat, Cow, Synthetic peptide
Dilution info	-
Notes	-

ChIP

Tested

Species	Human
Dilution info	5 µg for 25 µg chromatin
Notes	-

Expected

Species	Cow
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1 µg for 10^5 Cells
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

Species	Cow
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Mouse, Rat

Dilution info	-
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

WB

Tested

Species	Synthetic peptide
Dilution info	1 µg/mL
Notes	-

Species	Human
Dilution info	1 µg/mL
Notes	-

Species	Cow
Dilution info	1 µg/mL
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	5 µg/mL

Notes	-

Expected

Species	Cow
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

Target data

See full target information H4C1

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.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Storage information	Do Not Freeze

Notes

ab238663 is the carrier-free version of ab31830.

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

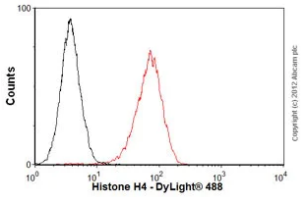
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

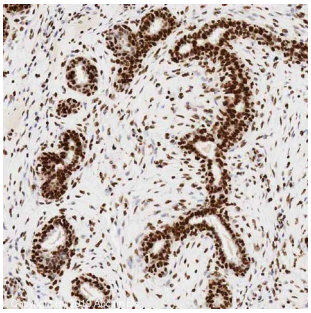
7 product images



Flow Cytometry (Intracellular) - Anti-Histone H4 antibody [mAbcam 31830] - ChIP Grade - BSA and Azide free (ab238663)

Histone H4 Flow Cytometry (Intracellular) staining using mouse Anti-Histone H4 antibody

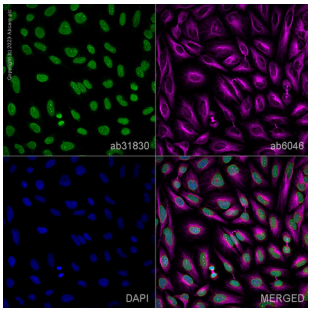
Overlay histogram showing HeLa cells stained with ab31830 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab31830, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, L-Arginine and sodium azide (ab31830).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Histone H4 antibody [mAbcam 31830] - ChIP Grade - BSA and Azide free (ab238663)

Histone H4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Histone H4 antibody

IHC image of Histone H4 staining in human breast fibroadenoma formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab31380, 0.1µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, L-Arginine and sodium azide (ab31830).



Immunocytochemistry/ Immunofluorescence - Anti-Histone H4 antibody [mAbcam 31830] - ChIP Grade - BSA and Azide free (ab238663)

Histone H4 Immunocytochemistry/ Immunofluorescence staining of HeLa cells using mouse Anti-Histone H4 antibody

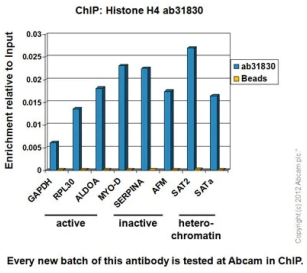
This data was developed using the same antibody clone in a different buffer formulation containing BSA and sodium azide (ab31830).

ab31830 staining Histone H4 in HeLa cells. The cells were fixed with 100% methanol (5 min), permeabilized with 0.1% PBS-Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1%PBS-Tween for 1h. The cells were then incubated overnight at 4°C with ab31830 at 1µg/ml and ab6046, Rabbit polyclonal to beta Tubulin - Loading Control. Cells were then incubated with ab150117, Goat polyclonal Secondary Antibody to Mouse IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution (shown in green) and ab150080, Goat

polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 594) at 1/1000 dilution (shown in pseudocolour magenta). Nuclear DNA was labelled with DAPI (shown in blue).

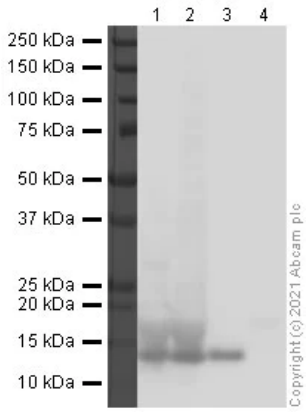
Also suitable in cells fixed with 4% paraformaldehyde (10 min).

Image was acquired with a high-content analyser (Operetta CLS, Perkin Elmer) and a maximum intensity projection of confocal sections is shown.



ChIP - Anti-Histone H4 antibody [mAbcam 31830] - ChIP Grade - BSA and Azide free (ab238663)

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, 5µg of ab31830 (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 and inactive loci, Sybr green approach for heterochromatic loci). Primers and probes are located in the first kb of the transcribed region.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, L-Arginine and sodium azide (ab31830).



Western blot - Anti-Histone H4 antibody [mAbcam 31830] - ChIP Grade - BSA and Azide free (ab238663)

This data was developed using the same antibody clone in a different buffer formulation (ab31830).
All lanes:
Western blot - Anti-Histone H4 antibody [mAbcam 31830] - ChIP Grade (ab31830) at 1 µg/mL

Lane 1:
Calf Thymus Histone Preparation Nuclear Lysate at 0.5 µg/mL

Lane 2:
HeLa Nuclear Lysate (Triton enriched) at 10 µg/mL

Lane 3:
Histone H4 Recombinant Protein at 0.1 µg/mL

Lane 4:
Histone H3.1 Recombinant Protein at 0.1 µg/mL

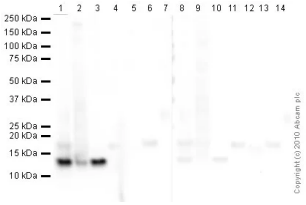
Secondary

All lanes:
Goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed (HRP) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Exposure time: 10s



Western blot - Anti-Histone H4 antibody [mAbcam 31830] - ChIP Grade - BSA and Azide free (ab238663)

Histone H4 Western blot staining using mouse Anti-Histone H4 antibody

This data was developed using the same antibody clone in a different buffer formulation containing PBS, L-Arginine and sodium azide (ab31830).
All lanes:
Western blot - Anti-Histone H4 antibody [mAbcam 31830] - ChIP Grade (ab31830) at 5 µg/mL

Lane 1:
Calf Thymus Histone Preparation Nuclear Lysate at 0.5 µg

Lane 2:
HeLa Histone Preparation Nuclear Lysate at 2.5 µg

Lane 3:
Histone H4 Recombinant Protein at 0.1 µg

Lane 4:
Histone H3.1 Recombinant Protein at 0.1 µg

Lane 5:
Histone H2A Recombinant Protein at 0.1 µg

Lane 6:
Histone H2B Recombinant Protein at 0.1 µg

Lane 7:
Histone H1 Recombinant Protein at 0.1 µg

Lane 8:
Calf Thymus Histone Preparation Nuclear Lysate at 0.5 µg with Human Histone H4 peptide (ab13843)

Lane 9:
HeLa Histone Preparation Nuclear Lysate at 2.5 µg with Human Histone H4 peptide (ab13843)

Lane 10:
Histone H4 Recombinant Protein at 0.1 µg with Human Histone H4 peptide (ab13843)

Lane 11:
Histone H3.1 Recombinant Protein at 0.1 µg with Human Histone H4 peptide (ab13843)

Lane 12:
Histone H2A Recombinant Protein at 0.1 µg with Human Histone H4 peptide (ab13843)

Lane 13:
Histone H2B Recombinant Protein at 0.1 µg with Human Histone H4 peptide (ab13843)

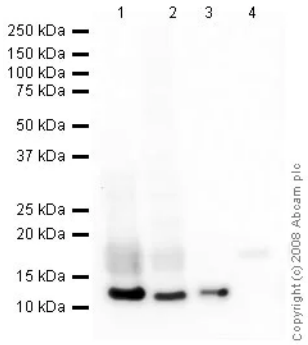
Lane 14:
Histone H1 Recombinant Protein at 0.1 µg with Human Histone H4 peptide (ab13843)

Secondary

All lanes:
Goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

Performed under reducing conditions.

Exposure time: 2min



Western blot - Anti-Histone H4 antibody [mAbcam 31830] - ChIP Grade - BSA and Azide free (ab238663)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, L-Arginine and sodium azide (ab31830).
All lanes:
Western blot - Anti-Histone H4 antibody [mAbcam 31830] - ChIP Grade (ab31830) at 1 µg/mL

Lane 1:
Calf Thymus Histone Preparation Nuclear Lysate at 0.5 µg

Lane 2:
HeLa Histone Preparation Nuclear Lysate at 2.5 µg

Lane 3:
Histone H4 Recombinant Protein at 0.1 µg

Lane 4:
Histone H3.1 Recombinant Protein at 0.1 µg

Secondary

All lanes:
Goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

Performed under reducing conditions.

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