abcam

Product datasheet

Anti-Histone H4 (formyl K12) antibody ab177068

3 Images

Overview

Product name	Anti-Histone H4 (formyl K12) antibody
Description	Rabbit polyclonal to Histone H4 (formyl K12)
Host species	Rabbit
Tested applications	**Suitable for:** WB, ICC/IF
Species reactivity	**Reacts with:** Mouse, Cow, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	This antibody gave a positive signal in HeLa and NIH3T3 whole cell lysates as well as Calf Thymus Histone (CTH) and HeLa Nuclear Prep (0.5% Triton X-100 insoluble fraction) ICC/IF – HeLa cells
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. 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, along with publications, 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 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

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab177068 in the following tested applications.

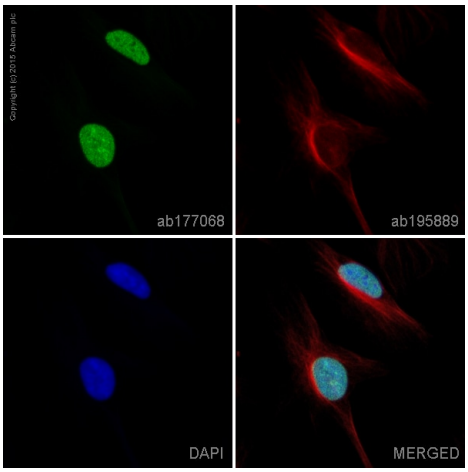
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		Use a concentration of 1 µg/ml. Detects a band of approximately 14 kDa (predicted molecular weight: 11 kDa).
ICC/IF		Use a concentration of 1 µg/ml.

Target

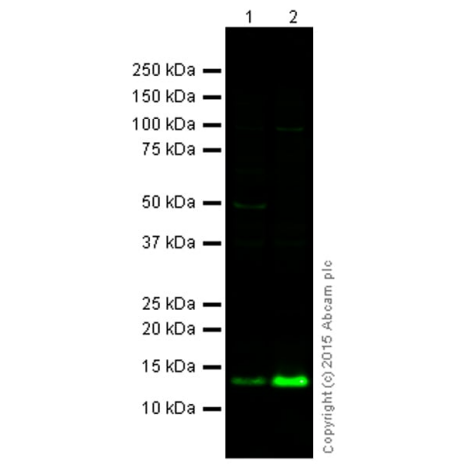
Function	Core component of nucleosome. Nucleosomes wrap and compact DNA into chromatin, limiting DNA accessibility to the cellular machineries which require DNA as a template. Histones thereby play a central role in transcription regulation, DNA repair, DNA replication and chromosomal stability. DNA 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 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



Immunocytochemistry/ Immunofluorescence - Anti-Histone H4 (formyl K12) antibody (ab177068)

ab177068 staining Histone H4 (formyl K12) in HeLa cells. The cells were fixed with 100% methanol (5min) and then permeabilised using 0.1% PBS-Triton. Cells were then blocked in 1% BSA/10% normal goat serum/0.3M glycine in 0.1%PBS-Tween for 1h. The cells were then incubated with ab177068 at 1µg/ml overnight at +4°C, followed by a further incubation at room temperature for 1h with an AlexaFluor®488 Goat anti-Rabbit secondary (**ab150081**) at 1/1000 dilution (shown in green). AlexaFluor®594 Mouse monoclonal [DM1A] to alpha Tubulin (**ab195889**) - Microtubule Marker was used at a 1/200 dilution and incubated for 1h with the cells, to label Microtubules (shown in Red). The nuclear counter stain is DAPI (blue), which was added to the secondary antibody mixture.



Western blot - Anti-Histone H4 (formyl K12) antibody (ab177068)

All lanes : Anti-Histone H4 (formyl K12) antibody (ab177068) at 1 µg/ml

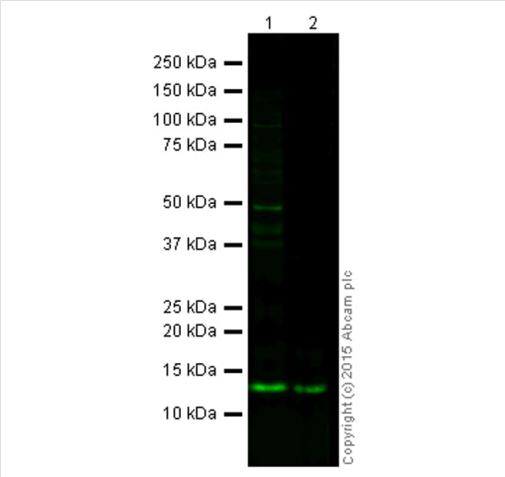
Lane 1 : HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate
Lane 2 : HeLa Nuclear Prep (0.5% Triton X-100 insoluble fraction)

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (Alexa Fluor® 790) at 1/10000 dilution

Predicted band size: 11 kDa
Observed band size: 14 kDa

This blot was produced using a 4-12% 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 Licor blocking buffer before being incubated with ab177068 overnight at 4°C. Antibody binding was detected using Goat Anti-Rabbit IgG H&L (Alexa Fluor® 790) at a 1:10,000 dilution for 1hr at room temperature and then imaged using the Licor Odyssey CLx.



Western blot - Anti-Histone H4 (formyl K12) antibody (ab177068)

All lanes : Anti-Histone H4 (formyl K12) antibody (ab177068) at 1 µg/ml

Lane 1 : NIH 3T3 (Mouse embryonic fibroblast cell line) Whole Cell Lysate at 10 µg
Lane 2 : Calf Thymus Histone Preparation Nuclear Lysate at 0.5 µg

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (Alexa Fluor® 790) at 1/10000 dilution

Predicted band size: 11 kDa
Observed band size: 14 kDa
Additional bands at: 50 kDa (possible non-specific binding)

This blot was produced using a 4-12% 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 Licor blocking buffer before being incubated with ab177068 overnight at 4°C. Antibody binding was detected using Goat Anti-Rabbit IgG H&L (Alexa Fluor® 790) at a 1:10,000 dilution for 1hr at room temperature and then imaged using the Licor Odyssey CLx.

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