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Product datasheet

Anti-Histone H2B (acetyl K20) antibody ab240890

5 Images

Overview

Product name	Anti-Histone H2B (acetyl K20) antibody
Description	Rabbit polyclonal to Histone H2B (acetyl K20)
Host species	Rabbit
Tested applications	**Suitable for:** WB, IP, ICC, ICC/IF, ChIP
Species reactivity	**Reacts with:** Human
Immunogen	Synthetic peptide within Human Histone H2B (acetyl K20). The exact sequence is proprietary. Database link: **P62807**
Positive control	WB: HEK-293, A549 and K562, treated with with 30mM sodium butyrate for 4hr, whole cell lysates. ICC: HeLa cells (treated with 30mM sodium butyrate for 4hr). ICC/IF: HeLa cells (treated with 30mM sodium butyrate for 4hr). IP: A549 whole cell lysate (treated with 30mM sodium butyrate for 4hr). ChIP: Chromatin prepared from Hela cells (treated with 30mM sodium butyrate for 4hr).
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 long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.40 Preservative: 0.03% Proclin 300 Constituents: PBS, 50% Glycerol (glycerin, glycerine)
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab240890 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		1/100 - 1/1000. Predicted molecular weight: 14 kDa.
IP		1/200 - 1/2000.
ICC		1/500 - 1/1000.
ICC/IF		1/50 - 1/200.
ChIP		Use at an assay dependent concentration. Use 5 µg per reaction.

Target

Relevance 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. Subunit structure The nucleosome is a histone octamer containing two molecules each of H2A, H2B, H3 and H4 assembled in one H3-H4 heterotetramer and two H2A-H2B heterodimers. The octamer wraps approximately 147 bp of DNA. Post-translational modification Monoubiquitination at Lys-35 (H2BK34Ub) by the MSL1/MSL2 dimer is required for histone H3 'Lys-4' (H3K4me) and 'Lys-79' (H3K79me) methylation and transcription activation at specific gene loci, such as HOXA9 and MEIS1 loci. Similarly, monoubiquitination at Lys-121 (H2BK120Ub) by the RNF20/40 complex gives a specific tag for epigenetic transcriptional activation and is also prerequisite for histone H3 'Lys-4' and 'Lys-79' methylation. It also functions cooperatively with the FACT dimer to stimulate elongation by RNA polymerase II. H2BK120Ub also acts as a regulator of mRNA splicing: deubiquitination by USP49 is required for efficient cotranscriptional splicing of a large set of exons. Phosphorylation at Ser-37 (H2BS36ph) by AMPK in response to stress promotes transcription. Phosphorylated on Ser-15 (H2BS14ph) by STK4/MST1 during apoptosis; which facilitates apoptotic chromatin condensation. Also phosphorylated on Ser-15 in response to DNA double strand breaks (DSBs), and in correlation with somatic hypermutation and immunoglobulin class-switch recombination. GlcNAcylation at Ser-113 promotes monoubiquitination of Lys-121. It fluctuates in response to extracellular glucose, and associates with transcribed genes. Crotonylation (Kcr) is specifically present in male germ cells and marks testis-specific genes in post-meiotic cells, including X-linked genes that escape sex chromosome inactivation in haploid cells. Crotonylation marks active promoters and enhancers and confers resistance to transcriptional repressors. It is also associated with post-meiotically activated genes on autosomes.

Cellular localization Nuclear

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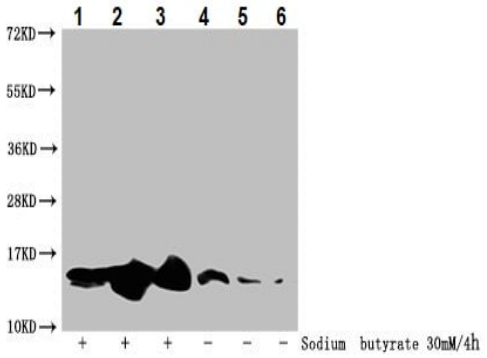
Images



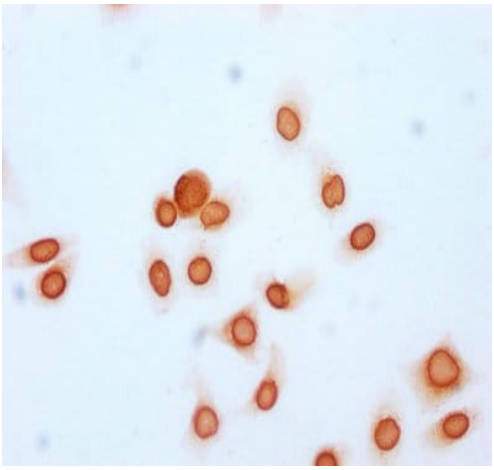
Western blot - Anti-Histone H2B (acetyl K20) antibody (ab240890)

All lanes : Anti-Histone H2B (acetyl K20) antibody (ab240890) at 1/100 dilution

Lane 1 : HEK-293 (human epithelial cell line from embryonic kidney) whole cell lysate, treated (+) with 30mM sodium butyrate for 4hr
Lane 2 : A549 (human lung carcinoma cell line) whole cell lysate, treated (+) with 30mM sodium butyrate for 4hr
Lane 3 : K562 (human chronic myelogenous leukemia cell line from bone marrow) whole cell lysate, treated (+) with 30mM sodium butyrate for 4hr
Lane 4 : HEK-293 whole cell lysate, untreated (-)
Lane 5 : A549 whole cell lysate, untreated (-)
Lane 6 : K562 whole cell lysate, untreated (-)

Secondary
All lanes : Goat polyclonal to rabbit IgG at 1/50000 dilution

Predicted band size: 14 kDa

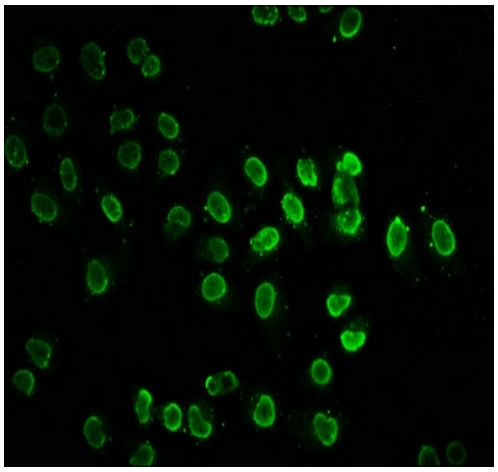


Immunocytochemistry - Anti-Histone H2B (acetyl K20) antibody (ab240890)

HeLa (human epithelial cell line from cervix adenocarcinoma) cells (treated with 30mM sodium butyrate for 4hr) stained for Histone H2B (acetyl K20) using ab240890 at 1/15 dilution in ICC.

The cells were fixed in 4% formaldehyde, permeabilized using 0.2% Triton X-100 and blocked with 10% normal goat serum 30 minutes at room temperature. Then primary antibody (1% BSA) was incubated at 4°C overnight.

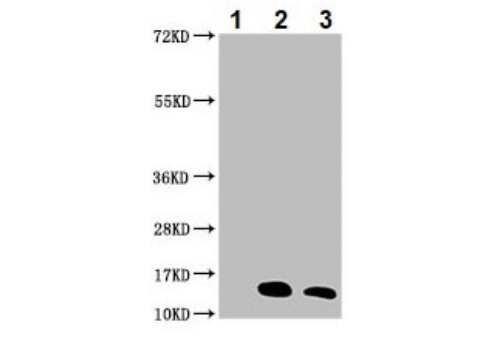
The primary is detected by a biotinylated secondary antibody and visualized using an HRP conjugated SP system.



Immunocytochemistry/ Immunofluorescence - Anti-Histone H2B (acetyl K20) antibody (ab240890)

HeLa (human epithelial cell line from cervix adenocarcinoma) cells (treated with 30mM sodium butyrate for 4hr) stained for Histone H2B (acetyl K20) using ab240890 at 1/50 dilution in ICC/IF.

The cells were fixed in 4% formaldehyde, permeabilized using 0.2% Triton X-100 and blocked in 10% normal goat serum. The cells were then incubated with the antibody overnight at 4°C. The secondary antibody was an Alexa-Fluor®488-conjugated Goat anti-Rabbit IgG(H+L).



Immunoprecipitation - Anti-Histone H2B (acetyl K20) antibody (ab240890)

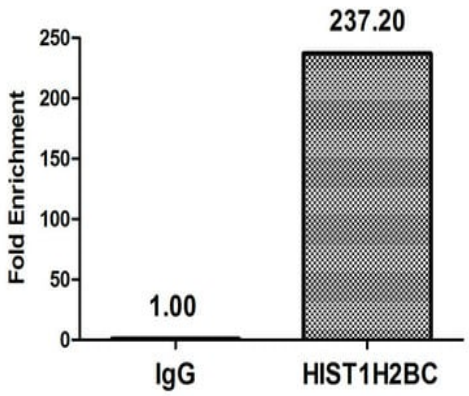
Histone H2B (acetyl K20) was immunoprecipitated from 500 µg A549 (human lung carcinoma cell line) whole cell lysate (treated with 30mM sodium butyrate for 4hr) with ab240890 at 1/200 dilution.

Lane 1: Rabbit control IgG IP in A549 whole cell lysate (treated with 30mM sodium butyrate for 4hr).

Lane 2: ab240890 IP in A549 whole cell lysate (treated with 30mM sodium butyrate for 4hr).

Lane 3: A549 whole cell lysate (treated with 30mM sodium butyrate for 4hr) 20 µg (Input).

For western blotting, an HRP-conjugated Protein G antibody was used as the secondary antibody at 1/2000 dilution.



ChIP - Anti-Histone H2B (acetyl K20) antibody (ab240890)

HeLa (human epithelial cell line from cervix adenocarcinoma; 10^6, treated with 30mM sodium butyrate for 4hr) were treated with Micrococcal Nuclease, sonicated, and immunoprecipitated with 5 µg ab240890 or a control normal rabbit IgG.

The resulting ChIP DNA was quantified using real-time PCR with primers against the β-Globin promoter.

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