

Product datasheet

Anti-Histone H2B (acetyl K23) antibody [RM260]
ab222770

Recombinant

3 Images

Overview

Product name	Anti-Histone H2B (acetyl K23) antibody [RM260]
Description	Rabbit monoclonal [RM260] to Histone H2B (acetyl K23)
Host species	Rabbit
Specificity	ab222770 reacts to Histone H2B acetylated at Lysine 23 (K23ac). No cross reactivity with other acetylated Lysines in histones.
Tested applications	Suitable for: ICC/IF, WB
Species reactivity	Reacts with: Human
Immunogen	Synthetic peptide corresponding to Histone H2B (acetyl K23).
Positive control	WB: HeLa cell lysate. ICC/IF: HeLa cells.

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	Preservative: 0.09% Sodium azide Constituents: 1% BSA, 50% Glycerol, PBS
Purity	Protein A purified
Purification notes	ab222770 was purified from an animal origin-free culture supernatant.
Clonality	Monoclonal
Clone number	RM260
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab222770** 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
ICC/IF		Use a concentration of 0.5 - 2 µg/ml.
WB		Use a concentration of 0.5 - 2 µg/ml. Predicted molecular weight: 14 kDa.

Target

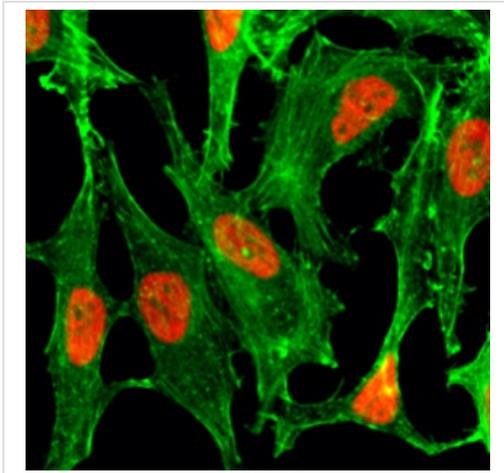
Relevance

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

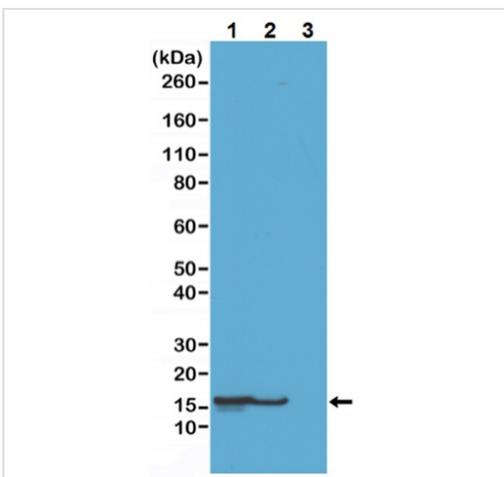
Nuclear

Images



Immunocytochemistry/ Immunofluorescence - Anti-Histone H2B (acetyl K23) antibody [RM260] (ab222770)

HeLa (human epithelial cell line from cervix adenocarcinoma) cells treated with sodium butyrate stained for Histone H2B (acetyl K23) (red) using ab222770 at 2 $\mu\text{g/ml}$ in ICC/IF. Actin filaments have been labeled with fluorescein phalloidin (green).



Western blot - Anti-Histone H2B (acetyl K23) antibody [RM260] (ab222770)

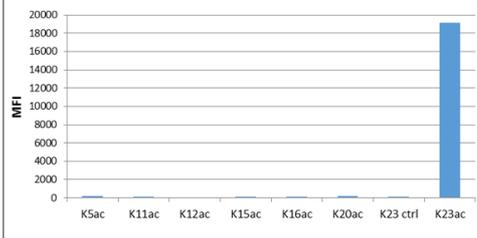
All lanes : Anti-Histone H2B (acetyl K23) antibody [RM260] (ab222770) at 0.5 $\mu\text{g/ml}$

Lane 1 : Acid extracts of HeLa (human epithelial cell line from cervix adenocarcinoma) cells treated with sodium butyrate

Lane 2 : Acid extracts of HeLa (human epithelial cell line from cervix adenocarcinoma) cells, untreated

Lane 3 : Recombinant Histone H2B

Predicted band size: 14 kDa



ab222770 specifically reacts to Histone H2B acetylated at Lysine 23 (K23ac). No cross reactivity with acetylated Lysine 5 (K5ac), Lysine 11 (K11ac), Lysine 12 (K12ac), Lysine 15 (K15ac), Lysine 20 (K20ac), or non-mordified Lysine 23 in Histone H2B.

Other - Anti-Histone H2B (acetyl K23) antibody
 [RM260] (ab222770)

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