abcam

Product datasheet

Anti-Histone H2B (acetyl K12) antibody [EP858Y] ab40883

RabMAb

★★★★★ 1 Abreviews 2 References 5 Images

Overview

Product name	Anti-Histone H2B (acetyl K12) antibody [EP858Y]
Description	Rabbit monoclonal [EP858Y] to Histone H2B (acetyl K12)
Host species	Rabbit
Tested applications	**Suitable for:** IHC-P, WB, ICC/IF **Unsuitable for:** ChIP-seq or IP
Species reactivity	**Reacts with:** Rat, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB:TSA treated C6 cell lysate. IHC-P: Human normal colon FFPE tissue sections. Human colon carcinoma tissue. ICC/IF: HeLa cells. Asynchronous HeLa cells.
General notes	This antibody only detects Histone H2B acetylated on Lysine 12. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**. 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. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.20 Preservative: 0.05% Sodium azide Constituents: 99% Tissue culture supernatant, 0.1% BSA

Purity	Protein A purified
Primary antibody notes	This antibody only detects Histone H2B acetylated on Lysine 12.
Clonality	Monoclonal
Clone number	EP858Y
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab40883 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
IHC-P		1/250 - 1/500. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
WB		1/2000. Detects a band of approximately 15 kDa (predicted molecular weight: 14 kDa).
ICC/IF	★★★★★ (1)	1/250 - 1/500.

Application notes Is unsuitable for ChIP-seq or IP.

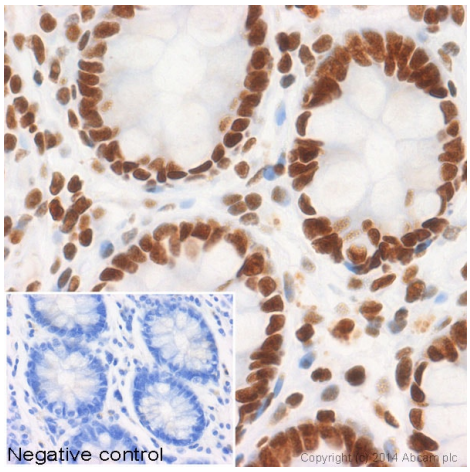
Target

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

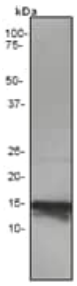
Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Histone H2B (acetyl K12) antibody [EP858Y] (ab40883)

IHC image of ab40883 staining Histone H2B (acetyl K12) in human colon formalin fixed paraffin embedded tissue sections, performed on a Leica Bond. 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 ab40883, 1/200 dilution, 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. No primary antibody was used in the negative control (shown on the inset).

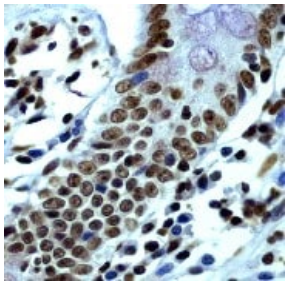
For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Western blot - Anti-Histone H2B (acetyl K12) antibody [EP858Y] (ab40883)

Anti-Histone H2B (acetyl K12) antibody [EP858Y] (ab40883) at 1/2000 dilution + C6+TSA cell lysate at 10 µg

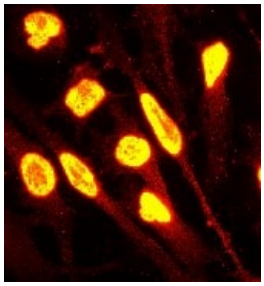
Predicted band size: 14 kDa
Observed band size: 15 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Histone H2B (acetyl K12) antibody [EP858Y] (ab40883)

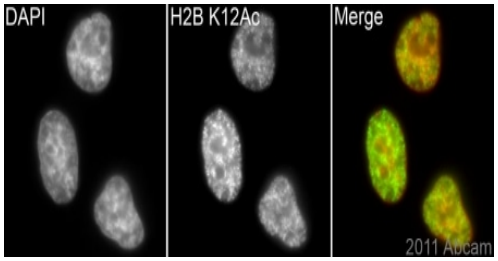
Immunohistochemical analysis of paraffin-embedded human colon carcinoma, using anti-Histone H2B ab40883 at a 1:250 dilution.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-Histone H2B (acetyl K12) antibody [EP858Y] (ab40883)

ab40883 (1:250) staining of HeLa cells by immunofluorescence.



Immunocytochemistry/ Immunofluorescence - Anti-Histone H2B (acetyl K12) antibody [EP858Y] (ab40883)

Image courtesy of an abreview submitted by Dr. Kirk McManus, Univ. of Manitoba/Cancer Care MICB, Canada

ab40883 (1/500) staining Histone H2B (acetyl K12) in asynchronous HeLa cells (green). Cells were fixed with paraformaldehyde, permeabilised using 0.5% Triton X100 and counterstained with DAPI in order to highlight the nucleus (red). For further experimental details please refer to Abreview.

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors