abcam

Product datasheet

Anti-Histone H2B antibody [IGX4228H] ab213288

Recombinant

1 References 4 Images

Overview

Product name	Anti-Histone H2B antibody [IGX4228H]
Description	Human monoclonal [IGX4228H] to Histone H2B
Host species	Human
Tested applications	**Suitable for:** WB, ChIP
Species reactivity	**Reacts with:** Mouse, Cow, Human, Recombinant fragment
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: CTH, HeLa whole cell, HeLa Nuclear, NIH3T3 whole cell, NIH3T3 Nuclear and Histone H2B Recombinant Protein lysates. ChIP: HeLa and NIH3T3.
General notes	This product was made using synthetic libraries and phage display technology. This antibody is a recombinant antibody. Human monoclonal antibody. For recommended secondary antibodies - Rabbit monoclonal Anti-Human IgG1 H&L (Alexa Fluor® 488) - **ab200622** Rabbit monoclonal Anti-Human IgG1 H&L (Alexa Fluor® 647) - **ab200623** Rabbit monoclonal Anti-Human IgG1 H&L (Biotin) - **ab201485** Rabbit Anti-Human IgG H&L (HRP) - **ab6759**

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: 7.2 Preservative: 0.01% Sodium azide Constituents: 0.05% BSA, 59% PBS, 40% Glycerol (glycerin, glycerine)
Clonality	Monoclonal
Clone number	IGX4228H
Isotype	IgG1

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab213288 in the following tested applications.

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

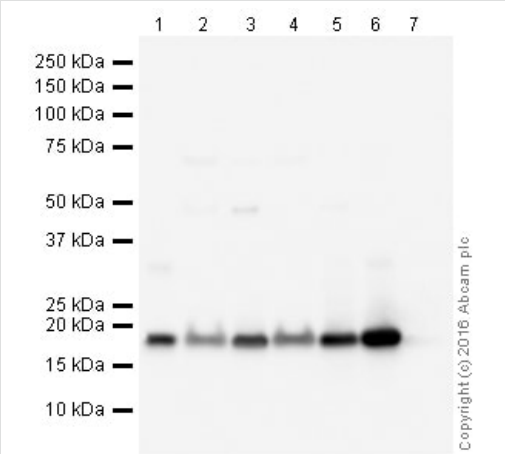
Application	Abreviews	Notes
WB		Use a concentration of 1 µg/ml. Detects a band of approximately 17 kDa (predicted molecular weight: 14 kDa).
ChIP		Use 2 µg for 25 µg of chromatin.

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



Western blot - Anti-Histone H2B antibody [IGX4228H] (ab213288)

All lanes : Anti-Histone H2B antibody [IGX4228H] (ab213288) at 1 µg/ml

Lane 1 : CTH (Calf Thymus Histone) at 0.5 µg
Lane 2 : HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate at 20 µg
Lane 3 : HeLa (Human epithelial carcinoma cell line) Nuclear Lysate at 10 µg
Lane 4 : NIH 3T3 (Mouse embryonic fibroblast cell line) Whole Cell Lysate at 20 µg
Lane 5 : NIH 3T3 (Mouse embryonic fibroblast cell line) Nuclear Lysate at 10 µg
Lane 6 : Histone H2B Recombinant Protein at 0.1 µg
Lane 7 : Histone H3 Recombinant Protein at 0.1 µg

Secondary
All lanes : HRP conjugated Goat Anti-Human IgG (H+L) at 1/10000 dilution

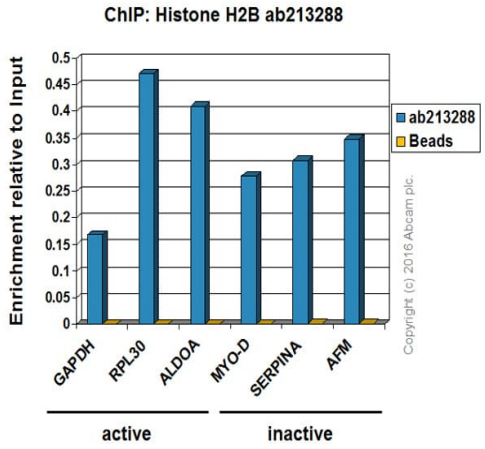
Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 14 kDa
Observed band size: 17 kDa

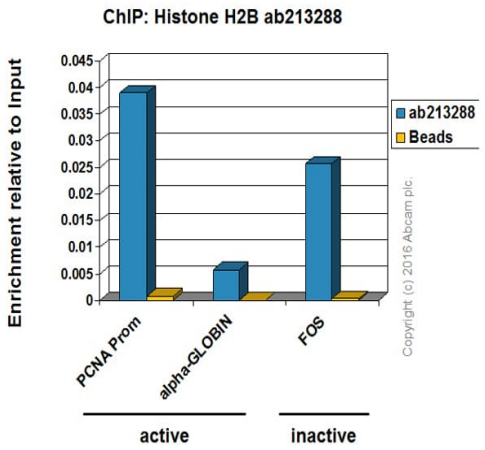
Exposure time: 30 seconds

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 3% milk before being incubated with ab213288 overnight at 4°C. Antibody binding was detected using an anti-human antibody conjugated to HRP, and visualised using ECL development solution **ab133406**.



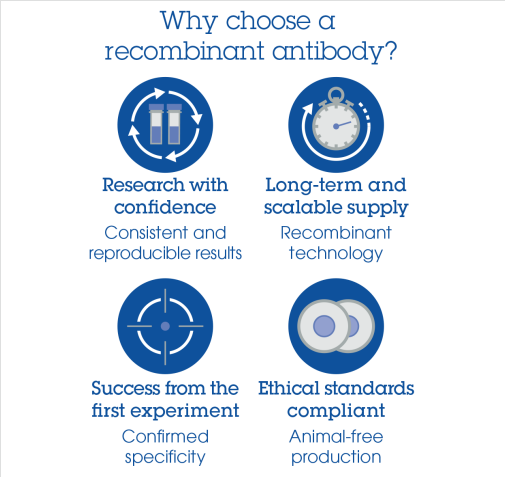
ChIP - Anti-Histone H2B antibody [IGX4228H] (ab213288)

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, 2µg of ab213288 (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). Primers and probes are located in the first kb of the transcribed region.



ChIP - Anti-Histone H2B antibody [IGX4228H] (ab213288)

Chromatin was prepared from NIH3T3 cells according to the Abcam X-ChIP protocol. Cells were fixed with formaldehyde for 10 minutes. The ChIP was performed with 25µg of chromatin, 2µg of ab213288 (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 (Sybr green approach). Primers and probes are located in the first kb of the transcribed region.



Anti-Histone H2B antibody [IGX4228H] (ab213288)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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