abcam

Product datasheet

Human Histone H2B peptide ab16101

1 Image

Description

Product name	Human Histone H2B peptide
Purity	> 90 % HPLC.
Animal free	No
Nature	Synthetic
Species	Human

Specifications

Our **Abpromise guarantee** covers the use of **ab16101** in the following tested applications.

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

Applications	Blocking - Blocking peptide for Anti-Histone H2B antibody - ChIP Grade (**ab1790**), Anti-Histone H2B antibody [mAbcam 52484] - ChIP Grade (**ab52484**), Anti-Histone H2B antibody [mAbcam 64165] - ChIP Grade (**ab64165**)
Form	Liquid
Additional notes	*- First try to dissolve a small amount of peptide in either water or buffer. The more charged residues on a peptide, the more soluble it is in aqueous solutions.* *- If the peptide doesn't dissolve try an organic solvent e.g. DMSO, then dilute using water or buffer.* *- Consider that any solvent used must be compatible with your assay. If a peptide does not dissolve and you need to recover it, lyophilise to remove the solvent.* *- Gentle warming and sonication can effectively aid peptide solubilisation. If the solution is cloudy or has gelled the peptide may be in suspension rather than solubilised.* *- Peptides containing cysteine are easily oxidised, so should be prepared in solution just prior to use.*

Preparation and Storage

Stability and Storage	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. Information available upon request.

General Info

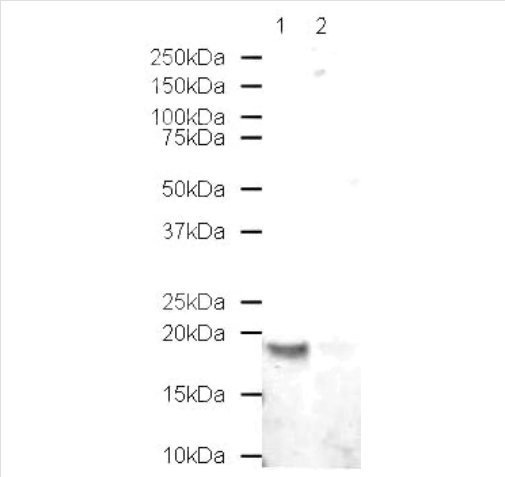
Relevance

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 - Human Histone H2B peptide (ab16101)

All lanes : Anti-Histone H2B antibody - ChIP Grade (**ab1790**) at 0.1 µg/ml

Lane 1 : Calf thymus histone prep

Lane 2 : Calf thymus histone prep with Human Histone H2B peptide (ab16101) at 1 µg/ml

Lysates/proteins at 20 µg per lane.

Secondary

All lanes : Alexa fluor Goat polyclonal anti-Rabbit IgG at 1/10000 dilution

Performed under reducing conditions.

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