

Product datasheet

Anti-Histone H2A (acetyl K5) antibody - N-terminal
ab229578

4 Images

Overview

Product name	Anti-Histone H2A (acetyl K5) antibody - N-terminal
Description	Rabbit polyclonal to Histone H2A (acetyl K5) - N-terminal
Host species	Rabbit
Tested applications	Suitable for: Dot blot, ICC/IF, IP, WB
Species reactivity	Reacts with: Human Predicted to work with: Rat 
Immunogen	Synthetic peptide within Human Histone H2A (N terminal) (acetyl K5). The exact sequence is proprietary. Carrier-protein conjugated. Database link: P04908
Positive control	WB: HeLa treated with 0.4 µM TSA, whole cell lysate. IP: HeLa treated with 0.4 µM TSA, whole cell lysate. ICC/IF: HeLa treated with 0.4 µM TSA 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	pH: 7 Preservative: 0.01% Thimerosal (merthiolate) Constituents: PBS, 1% BSA, 20% Glycerol
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab229578** 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
Dot blot		Use at an assay dependent concentration.
ICC/IF		1/100 - 1/1000.
IP		1/100 - 1/10000.
WB		1/1000 - 1/20000. Predicted molecular weight: 14 kDa.

Target

Function

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.

Sequence similarities

Belongs to the histone H2A family.

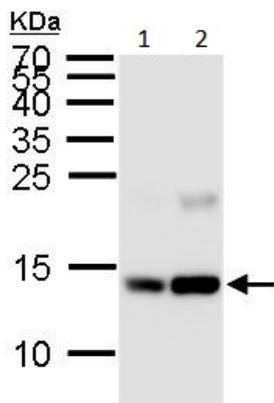
Post-translational modifications

The chromatin-associated form is phosphorylated on Thr-121 during mitosis. Deiminated on Arg-4 in granulocytes upon calcium entry. Monoubiquitination of Lys-120 by RING1 and RNF2/RING2 complex gives a specific tag for epigenetic transcriptional repression and participates in X chromosome inactivation of female mammals. It is involved in the initiation of both imprinted and random X inactivation. Ubiquitinated H2A is enriched in inactive X chromosome chromatin. Ubiquitination of H2A functions downstream of methylation of 'Lys-27' of histone H3. Monoubiquitination of Lys-120 by RNF2/RING2 can also be induced by ultraviolet and may be involved in DNA repair. Following DNA double-strand breaks (DSBs), it is ubiquitinated through 'Lys-63' linkage of ubiquitin moieties by the E2 ligase UBE2N and the E3 ligases RNF8 and RNF168, leading to the recruitment of repair proteins to sites of DNA damage. Monoubiquitination and ionizing radiation-induced 'Lys-63'-linked ubiquitination are distinct events. Phosphorylation on Ser-2 is enhanced during mitosis. Phosphorylation on Ser-2 by RPS6KA5/MSK1 directly represses transcription. Acetylation of H3 inhibits Ser-2 phosphorylation by RPS6KA5/MSK1. Symmetric dimethylation on Arg-4 by the PRDM1/PRMT5 complex may play a crucial role in the germ-cell lineage.

Cellular localization

Nucleus. Chromosome.

Images



Western blot - Anti-Histone H2A (acetyl K5) antibody - N-terminal (ab229578)

All lanes : Anti-Histone H2A (acetyl K5) antibody - N-terminal (ab229578) at 1/10000 dilution

Lane 1 : HeLa (human epithelial cell line from cervix adenocarcinoma) treated with 0.012% DMSO for 18 hours, whole cell lysate

Lane 2 : HeLa (human epithelial cell line from cervix adenocarcinoma) treated with 0.4 μM Trichostatin A for 18 hours, whole cell lysate

Lysates/proteins at 30 μg per lane.

Predicted band size: 14 kDa

15% SDS-PAGE gel.



Dot Blot - Anti-Histone H2A (acetyl K5) antibody - N-terminal (ab229578)

Dot blot analysis of Histone H2A (acetyl K5) labeled with ab229578 at 1/500 dilution.

Lane 1: H2A.2K5un peptide.

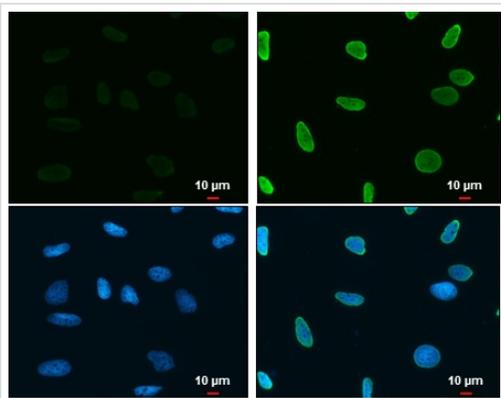
Lane 2: H2A.2K5ac peptide.

Lane 3: H2BK20un peptide.

Lane 4: H2BK20ac peptide.

Lane 5: H2BK5un peptide.

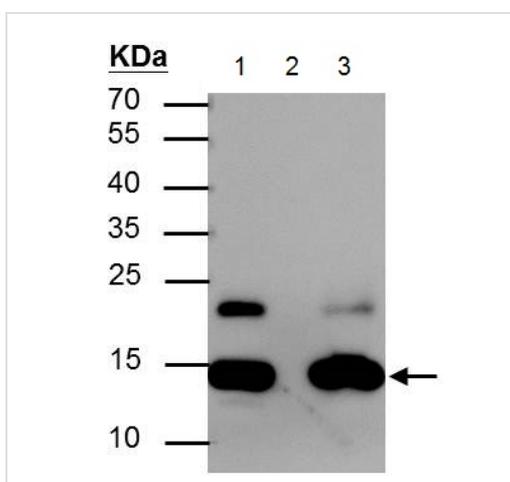
Lane 6: H2BK5ac peptide.



Immunocytochemistry/ Immunofluorescence - Anti-Histone H2A (acetyl K5) antibody - N-terminal (ab229578)

4% paraformaldehyde-fixed HeLa (human epithelial cell line from cervix adenocarcinoma) cells (green) untreated (left panels) and treated with 0.4 μM TSA for 18 hours (right panels) stained for Histone H2AK5ac (acetyl Lys5) using ab229578 at 1/500 dilution.

Nuclear counterstain: Hoechst 33342 (blue).



Immunoprecipitation - Anti-Histone H2A (acetyl K5) antibody - N-terminal (ab229578)

Histone H2A (acetyl K5) was immunoprecipitated from HeLa (human epithelial cell line from cervix adenocarcinoma) treated with 0.4 μM TSA for 18 hours, whole cell lysate with 2.5 μg of ab229578. Western blot was performed from the immunoprecipitate using ab229578 at 1/10000 dilution.

Lane 1: Histone H2A (acetyl K5) expressing HeLa treated with 0.4 μM TSA for 18 hours, whole cell lysate 30 μg (Input).

Lane 2: 2.5 μg of pre-immune rabbit IgG instead of ab229578 in HeLa treated with 0.4 μM TSA for 18 hours, whole cell lysate.

Lane 3: ab229578 IP in HeLa treated with 0.4 μM TSA for 18 hours, whole cell lysate.

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