abcam

Product datasheet

Anti-Histone H4 (symmetric di methyl R3) antibody ab231658

3 Images

Overview

Product name	Anti-Histone H4 (symmetric di methyl R3) antibody
Description	Rabbit polyclonal to Histone H4 (symmetric di methyl R3)
Host species	Rabbit
Specificity	ab231658 also recognizes H2AR3me2(sym).
Tested applications	**Suitable for:** ICC/IF, Dot blot, WB
Species reactivity	**Reacts with:** Human, Recombinant fragment
Immunogen	Synthetic peptide corresponding to Human Histone H4 (symmetric di methyl R3) conjugated to keyhole limpet haemocyanin. Database link: **P62805**
Positive control	ICC/IF: HeLa cells. WB: Whole cell and histone extracts from HeLa cells.
General notes	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 long term. Avoid freeze / thaw cycle.
Storage buffer	Preservatives: 0.05% Sodium azide, 0.05% Proclin 300 Constituent: PBS
Purity	Affinity purified
Clonality	Polyclonal

Applications

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab231658 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		1/500.
Dot blot		1/5000.
WB		1/1000.

Target

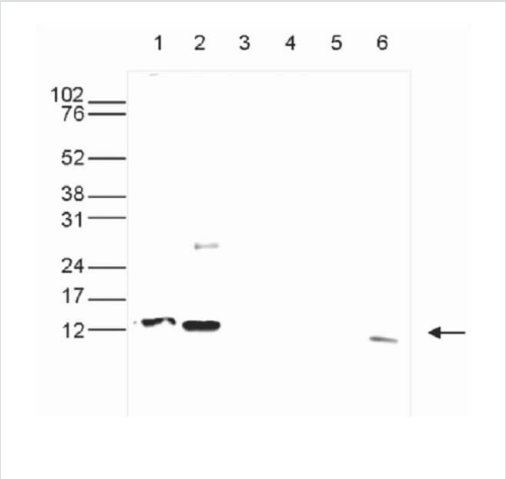
Function Core component of nucleosome. Nucleosomes wrap and compact DNA into chromatin, limiting DNA accessibility to the cellular machineries which require DNA as a template. Histones thereby play a central role in transcription regulation, DNA repair, DNA replication and chromosomal stability. DNA 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 H4 family.

Post-translational modifications Acetylation at Lys-6 (H4K5ac), Lys-9 (H4K8ac), Lys-13 (H4K12ac) and Lys-17 (H4K16ac) occurs in coding regions of the genome but not in heterochromatin.
Citrullination at Arg-4 (H4R3ci) by PADI4 impairs methylation.
Monomethylation and asymmetric dimethylation at Arg-4 (H4R3me1 and H4R3me2a, respectively) by PRMT1 favors acetylation at Lys-9 (H4K8ac) and Lys-13 (H4K12ac). Demethylation is performed by JMJD6. Symmetric dimethylation on Arg-4 (H4R3me2s) by the PRDM1/PRMT5 complex may play a crucial role in the germ-cell lineage.
Monomethylated, dimethylated or trimethylated at Lys-21 (H4K20me1, H4K20me2, H4K20me3). Monomethylation is performed by SET8. Trimethylation is performed by SUV420H1 and SUV420H2 and induces gene silencing.
Ubiquitinated by the CUL4-DDB-RBX1 complex in response to ultraviolet irradiation. This may weaken the interaction between histones and DNA and facilitate DNA accessibility to repair proteins. Monoubiquitinated at Lys-92 of histone H4 (H4K91ub1) in response to DNA damage. The exact role of H4K91ub1 in DNA damage response is still unclear but it may function as a licensing signal for additional histone H4 post-translational modifications such as H4 Lys-21 methylation (H4K20me).
Sumoylated, which is associated with transcriptional repression.

Cellular localization Nucleus. Chromosome.

Images

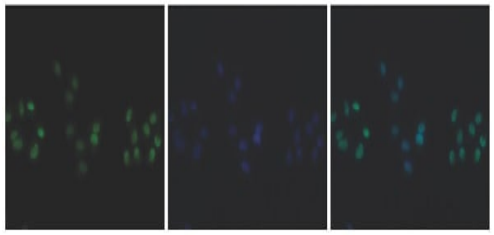


Western blot - Anti-Histone H4 (symmetric di methyl R3) antibody (ab231658)

All lanes : Anti-Histone H4 (symmetric di methyl R3) antibody (ab231658) at 1/1000 dilution

Lane 1 : Whole cell HeLa (Human epithelial cell line from cervix adenocarcinoma) extracts at 25 µg
Lane 2 : Histone extracts from HeLa (Human epithelial cell line from cervix adenocarcinoma) cells at 15 µg
Lane 3 : Recombinant histone H2A at 1 µg
Lane 4 : Recombinant histone H2B at 1 µg
Lane 5 : Recombinant histone H3 at 1 µg
Lane 6 : Recombinant histone H4 at 1 µg

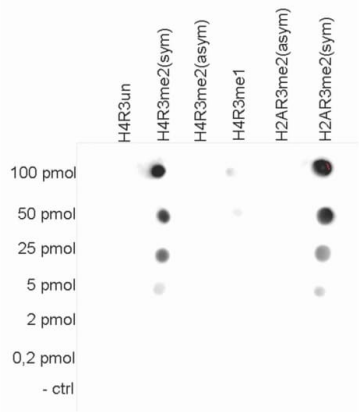
Dilution buffer: TBS-Tween containing 5% skimmed milk.



Immunocytochemistry/ Immunofluorescence - Anti-Histone H4 (symmetric di methyl R3) antibody (ab231658)

HeLa (Human epithelial cell line from cervix adenocarcinoma) cells stained for Histone H4 (symmetric di methyl R3) using ab231658 at a dilution of 1/500 in ICC/IF.

Cells were fxed with 4% formaldehyde for 10 minutes and blocked with PBS/TX-100 containing 5% normal goat serum and 1% BSA. Secondary used is an Alexa Fluor®488-conjugated anti-Rabbit IgG. The middle panel shows staining of the nuclei with DAPI. A merge of the two stainings is shown on the right.



Dot Blot - Anti-Histone H4 (symmetric di methyl R3) antibody (ab231658)

Dot Blot analysis was performed with peptides containing other histone arginine methylations and the unmodifed H4R3. One hundred to 0.2 pmol of the respective peptides were spotted on a membrane. ab231658 was used at a dilution of 1:5,000.

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