

Product datasheet

Anti-Histone H4 (mono methyl R92) antibody [EPR21782] α b219797

Recombinant RabMAb

9 Images

Overview

Product name	Anti-Histone H4 (mono methyl R92) antibody [EPR21782]
Description	Rabbit monoclonal [EPR21782] to Histone H4 (mono methyl R92)
Host species	Rabbit
Tested applications	Suitable for: Flow Cyt (Intra), Dot blot, ICC/IF, WB, IHC-P
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: NIH/3T3, C6, PC-12 and HeLa whole cell lysates. IHC-P: Human colon tissue; mouse liver tissue; rat cerebral cortex tissue. ICC/IF: HeLa and NIH/3T3 cells. Flow Cyt (intra): NIH/3T3 cells. Dot blot: Histone H4 (mono methyl R92) peptide.
General notes	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production <p>For more information see here.</p> <p>Our RabMAb[®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb[®] patents.</p>

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	<p>pH: 7.2</p> <p>Preservative: 0.01% Sodium azide</p> <p>Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA</p>
Purity	Protein A purified
Clonality	Monoclonal

Clone number	EPR21782
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab219797 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
Flow Cyt (Intra)		1/60.
Dot blot		1/1000.
ICC/IF		1/100.
WB		1/1000. Detects a band of approximately 11 kDa (predicted molecular weight: 11 kDa).
IHC-P		1/1000. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

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

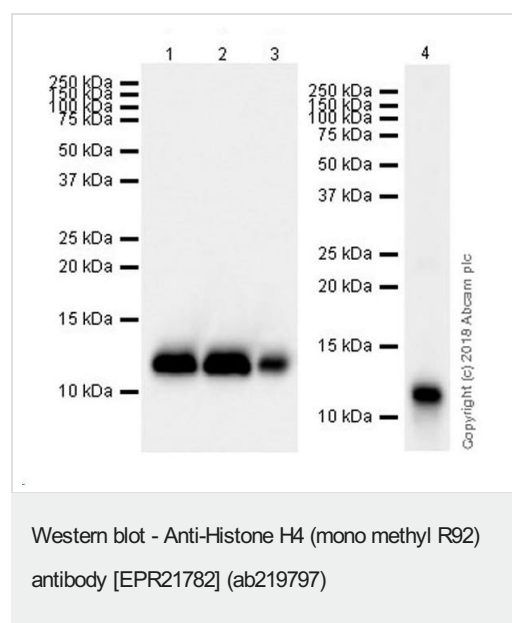
Belongs to the histone H4 family.

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.
Citullination at Arg-4 (H4R3ci) by PAD4 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.



All lanes : Anti-Histone H4 (mono methyl R92) antibody [EPR21782] (ab219797) at 1/1000 dilution

Lane 1 : NIH/3T3 (mouse embryo fibroblast cell line) whole cell lysate

Lane 2 : C6 (rat glioma cell line) whole cell lysate

Lane 3 : PC-12 (rat adrenal gland pheochromocytoma cell line) whole cell lysate

Lane 4 : HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate

Lysates/proteins at 20 µg per lane.

Secondary

All lanes : Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/100000 dilution

Predicted band size: 11 kDa

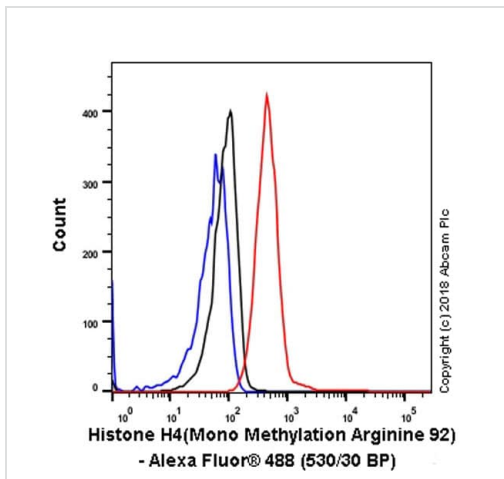
Observed band size: 11 kDa

Blocking and dilution buffer: 5% NFDM/TBST.

Exposure times:

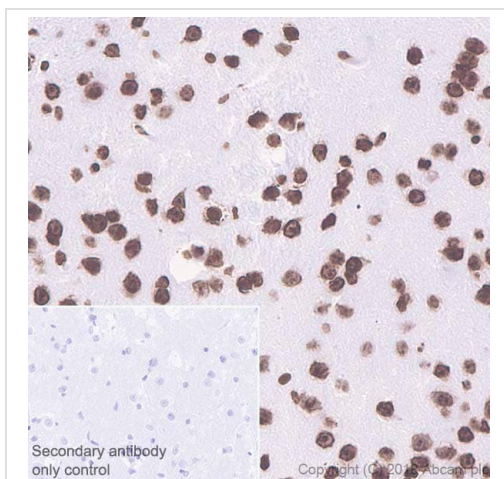
Lanes 1-3: 10 seconds.

Lane 4: 8 seconds.



Flow Cytometry (Intracellular) - Anti-Histone H4 (mono methyl R92) antibody [EPR21782] (ab219797)

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol-permeabilized NIH/3T3 (mouse embryo fibroblast cell line) cell line labeling Histone H4 (mono methyl R92) with ab219797 at 1/60 (red) compared with a Rabbit monoclonal IgG - Isotype control ([ab172730](#)) (black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) ([ab150077](#)), at 1/2000 dilution was used as the secondary antibody.

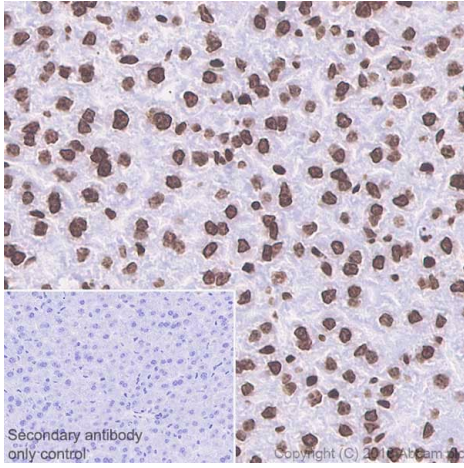


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Histone H4 (mono methyl R92) antibody [EPR21782] (ab219797)

Immunohistochemical analysis of paraffin-embedded rat cerebral cortex tissue labeling Histone H4 (mono methyl R92) with ab219797 at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Nuclear staining in rat cerebral cortex is observed. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

Perform heat-mediated antigen retrieval using [ab93684](#) (Tris/EDTA buffer, pH 9.0).

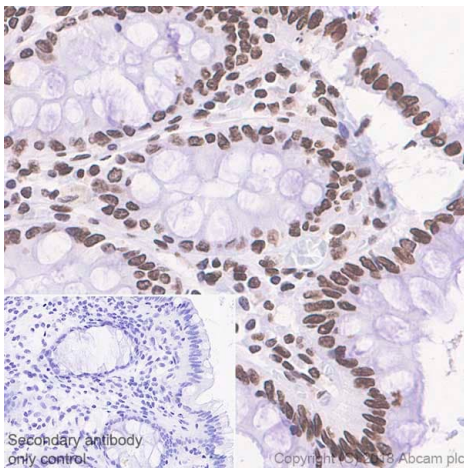


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Histone H4 (mono methyl R92) antibody [EPR21782] (ab219797)

Immunohistochemical analysis of paraffin-embedded mouse liver tissue labeling Histone H4 (mono methyl R92) with ab219797 at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Nuclear staining in mouse liver is observed. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

Perform heat-mediated antigen retrieval using [ab93684](#) (Tris/EDTA buffer, pH 9.0).

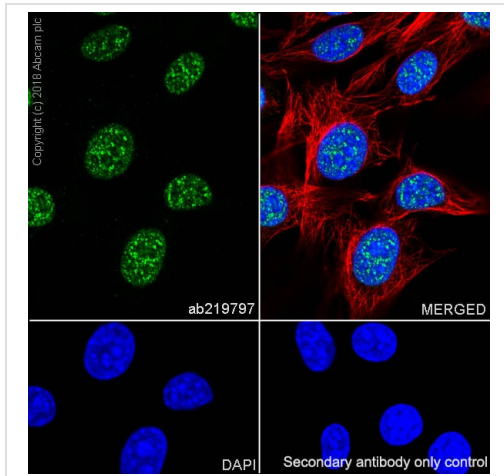


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Histone H4 (mono methyl R92) antibody [EPR21782] (ab219797)

Immunohistochemical analysis of paraffin-embedded human colon tissue labeling Histone H4 (mono methyl R92) with ab219797 at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Nuclear staining in human colon is observed. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

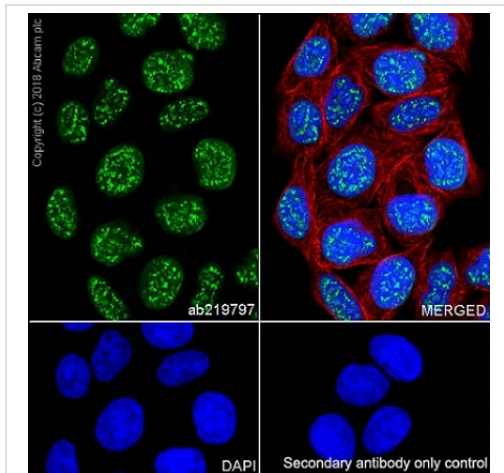
Perform heat-mediated antigen retrieval using [ab93684](#) (Tris/EDTA buffer, pH 9.0).



Immunocytochemistry/ Immunofluorescence - Anti-Histone H4 (mono methyl R92) antibody [EPR21782] (ab219797)

Immunofluorescent analysis of 100% methanol-fixed NIH/3T3 (mouse embryo fibroblast cell line) cells labeling Histone H4 (mono methyl R92) with ab219797 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) ([ab150077](#)) secondary antibody at 1/1000 dilution (green). Confocal image showing nuclear staining in NIH/3T3 cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) ([ab195889](#)) at 1/200 dilution.

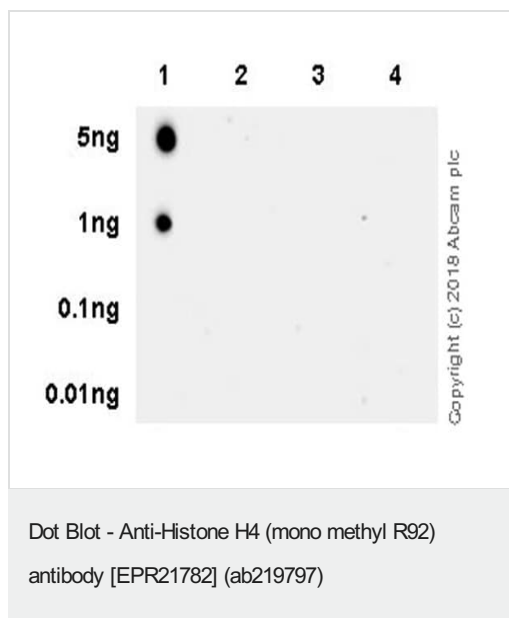
Secondary antibody only control: Used PBS instead of primary antibody, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) ([ab150077](#)) secondary antibody at 1/1000 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-Histone H4 (mono methyl R92) antibody [EPR21782] (ab219797)

Immunofluorescent analysis of 100% methanol-fixed HeLa (human epithelial cell line from cervix adenocarcinoma) cells labeling Histone H4 (mono methyl R92) with ab219797 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) ([ab150077](#)) secondary antibody at 1/1000 dilution (green). Confocal image showing nuclear staining in HeLa cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) ([ab195889](#)) at 1/200 dilution.

Secondary antibody only control: Used PBS instead of primary antibody, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) ([ab150077](#)) secondary antibody at 1/1000 dilution.



Dot blot analysis of Histone H4 (mono methyl R92) labeled with ab219797 at 1/1000 dilution.

Lane 1: Histone H4 (mono methyl R92) peptide.

Lane 2: Unmodified Histone H4 peptide.

Lane 3: Histone H4 (asymmetric di-methyl R92) peptide.

Lane 4: Histone H4 (symmetric di-methyl R92) peptide.

Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/100000 dilution was used as secondary antibody.

Blocking and dilution buffer: 5% NFDM/TBST.

Exposure time: 3 minutes.

Why choose a recombinant antibody?

- Research with confidence**
Consistent and reproducible results
- Long-term and scalable supply**
Recombinant technology
- Success from the first experiment**
Confirmed specificity
- Ethical standards compliant**
Animal-free production

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

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