abcam

ab124781

Anti-Histone H2A antibody [EPR895] - Nuclear Marker

Anti-Histone H2A antibody [EPR895] - Nuclear Marker (ab124781) is a rabbit monoclonal antibody detecting Histone H2A in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 30 publications

Lab Essentials | Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR895
Purification technique	Affinity purification Protein A
Specificity	This antibody does not work in ICC/IF on PFA fixed cells but does work on methanol fixed cells. The immunogen binds to canonical H2A proteins as well as other H2A variants including H2A.X. For Histone H2A.X specific antibody, please use ab229914.
Concentration	0.964 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/500 - 1/1000
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody. Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	5 µg/mL
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000 - 1/10000
Notes	-

Species	Rat
Dilution info	1/1000 - 1/10000
Notes	-

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Species	Recombinant full length protein - Human
Dilution info	1/1000 - 1/10000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/1000
Notes	ab124781 does not work on PFA fixed cells but does work on methanol fixed cells.

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.

Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Target data

See full target information H2AX

Function	Variant histone H2A which replaces conventional H2A in a subset of nucleosomes. 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. Required for checkpoint-mediated arrest of cell cycle progression in

response to low doses of ionizing radiation and for efficient repair of DNA double strand breaks (DSBs) specifically when modified by C-terminal phosphorylation.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Stable for 12 months at -20°C

Notes

What is this antibody validated in?
Anti-Histone H2A antibody [EPR895] - Nuclear Marker (ab124781) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

Trusted by the scientific community
Anti-Histone H2A [EPR895] - Nuclear Marker (ab124781) was first used in a scientific publication in 2012 and has been cited over 30 times in peer-reviewed journals.

Other related products
We have a range of other formats of antibody clone [EPR895] also available for your convenience: ab124781, Carrier free - ab217838, Alexa Fluor® 488 - ab218347, Alexa Fluor® 647 - ab300736, PE - ab314274

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply

- Animal-free batch production

For more information, read more on recombinant antibodies.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

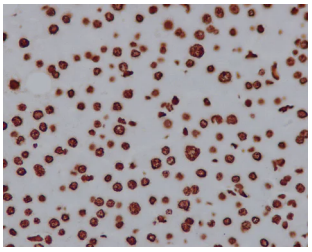
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

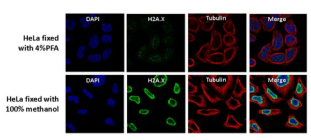
12 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Histone H2A antibody [EPR895] - Nuclear Marker (ab124781)

Histone H2A Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Histone H2A antibody

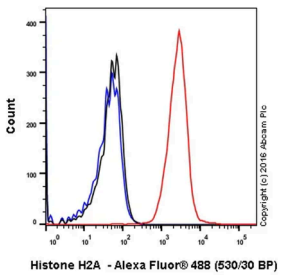
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human liver tissue labelling Histone H2A with unpurified ab124781 at 1/500. Heat mediated antigen retrieval was performed using Tris/EDTA buffer, pH 9. A prediluted HRP-polymer conjugated anti-rabbit IgG was used as the secondary antibody. Counterstained with hematoxylin.



Immunocytochemistry/ Immunofluorescence - Anti-Histone H2A antibody [EPR895] - Nuclear Marker (ab124781)

Histone H2A Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Histone H2A antibody

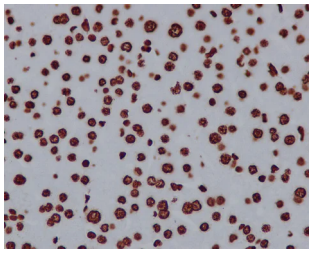
Immunocytochemistry/Immunofluorescence analysis of HeLa cells labelling Histone H2A with purified ab124781 at a dilution of 1/1000. Cells were fixed with either 4% PFA (top) or 100% methanol (bottom) and permeabilized with 0.1% TritonX-100. ab150077, an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000) was used as the secondary antibody.
ab7291 mouse anti-Tubulin (1/1000) followed by ab150120, an Alexa Fluor® 594-conjugated goat anti-mouse IgG (1/1000) were used to label tubulin. DAPI was used as the nulear counterstain.



Flow Cytometry (Intracellular) - Anti-Histone H2A antibody [EPR895] - Nuclear Marker (ab124781)

Histone H2A Flow Cytometry (Intracellular) staining using rabbit Anti-Histone H2A antibody

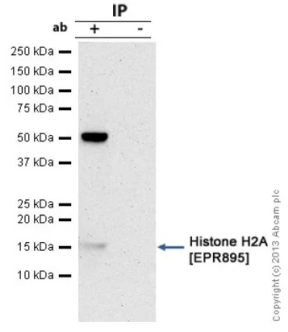
Intracellular Flow Cytometry analysis of HeLa (human cervix adenocarcinoma) cells labeling Histone H2A with purified ab124781 at 1/100 dilution (10ug/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488) (1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Black) was used as the isotype control, cells without incubation with primary antibody and secondary antibody (Blue) was used as the unlabeled control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Histone H2A antibody [EPR895] - Nuclear Marker (ab124781)

Histone H2A Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Histone H2A antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human liver tissue labelling Histone H2A with purified ab124781 at 1/500. Heat mediated antigen retrieval was performed using Tris/EDTA buffer, pH 9. A prediluted HRP-polymer conjugated anti-rabbit IgG was used as the secondary antibody. Counterstained with hematoxylin.



Immunoprecipitation - Anti-Histone H2A antibody [EPR895] - Nuclear Marker (ab124781)

Histone H2A was immunoprecipitated using 5ug of ab124781 from 200ul of HeLa whole cell extract lysate diluted to 0.5mg/ml in RIPA and 50ul of Protein G magnetic beads. No antibody was added to the control (-).
The antibody was incubated under agitation with the Protein G beads for 10min, HeLa whole cell extract lysate diluted in RIPA buffer was added to each sample and incubated for a further 10min under agitation.

Proteins were eluted by addition of 40µl SDS loading buffer and incubated for 10min at 70°C. 10µl of each sample was separated on a SDS PAGE gel, transferred to a nitrocellulose membrane, blocked with 5% BSA and probed with ab124781 at 1ug/ml. The Secondary antibody was Mouse monoclonal SB62a Anti-Rabbit IgG light chain (HRP) (ab99697) at 1/10,000 dilution.

Band: 15kDa; Histone H2A

All lanes:

Immunoprecipitation - Anti-Histone H2A antibody [EPR895] - Nuclear Marker (ab124781) at 1 µg/mL

All lanes:
HeLa whole cell extract at 0.5 mg/mL

Secondary

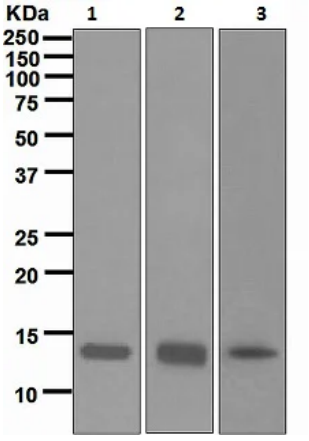
All lanes:
Immunoprecipitation - Mouse monoclonal [SB62a] Anti-Rabbit IgG light chain (HRP) (ab99697) at 1/10000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 15 kDa

Exposure time: 20min



Western blot - Anti-Histone H2A antibody [EPR895] - Nuclear Marker (ab124781)

Histone H2A Western blot staining using rabbit Anti-Histone H2A antibody

All lanes:
Western blot - Anti-Histone H2A antibody [EPR895] - Nuclear Marker (ab124781) at 1/1000 dilution

Lane 1:
Raji lysate at 10 µg

Lane 2:
Fetal kidney lysate at 10 µg

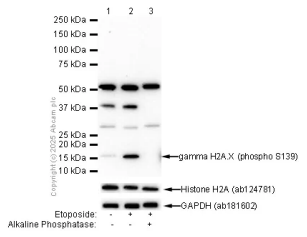
Lane 3:
Human heart lysate at 10 µg

Secondary

All lanes:
HRP labelled Goat anti Rabbit IgG at 1/2000 dilution

Predicted band size: 15 kDa

Observed band size: 14 kDa



Western blot - Anti-Histone H2A antibody [EPR895] - Nuclear Marker (ab124781)

Histone H2A Western blot staining using rabbit Anti-Histone H2A antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/1000000 dilution.

In Western blot, Anti-Histone H2A antibody [EPR895] - Nuclear Marker (ab124781) staining at 1/2000 dilution.

The identity of the bands between 25kDa and 50kDa are unknown.
All lanes:
Western blot - Anti-gamma H2A.X (phospho S139) antibody [EP854(2)Y] (ab81299) at 1/1000 dilution

Lane 1:
Untreated Jurkat (Human T cell leukemia T lymphocyte) whole cell lysate at 20 µg

Lane 2:
Jurkat treated with 25µM etoposide for 8 hours whole cell lysate at 20 µg

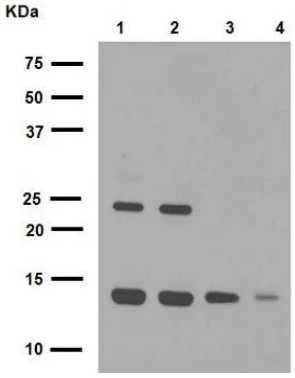
Lane 3:
Jurkat treated with 25µM etoposide for 8 hours whole cell lysate 20µg, then the membrane treated with Alkaline Phosphatase for 1 hour at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 15 kDa

Exposure time: 60s



Western blot - Anti-Histone H2A antibody [EPR895] - Nuclear Marker (ab124781)

Histone H2A Western blot staining using rabbit Anti-Histone H2A antibody

~22kDa band may be the monoubiquitinated form of histone H2A
Blocking buffer and concentration: 5% NFDM/TBST.

Diluting buffer and concentration: 5% NFDM /TBST.

All lanes:
Western blot - Anti-Histone H2A antibody [EPR895] - Nuclear Marker (ab124781) at 1/2000 dilution

Lane 1:
Raji cell lysate at 20 µg

Lane 2:
HEK293 cell lysate at 20 µg

Lane 3:
Mouse kidney tissue lysate at 20 µg

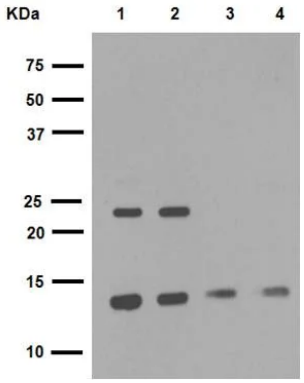
Lane 4:
Rat kidney tissue lysate at 20 µg

Secondary

All lanes:
Peroxidase-conjugated goat anti-rabbit IgG (H+L) at 1/1000 dilution

Predicted band size: 15 kDa

Observed band size: 14 kDa, 22 kDa



Western blot - Anti-Histone H2A antibody [EPR895] - Nuclear Marker (ab124781)

Histone H2A Western blot staining using rabbit Anti-Histone H2A antibody

Blocking buffer and concentration: 5% NFDM/TBST.
Diluting buffer and concentration: 5% NFDM /TBST.

All lanes:
Western blot - Anti-Histone H2A antibody [EPR895] - Nuclear Marker (ab124781) at 1/3000 dilution

Lane 1:
Raji cell lysate at 20 µg

Lane 2:
HEK293 cell lysate at 20 µg

Lane 3:
Mouse kidney tissue lysate at 20 µg

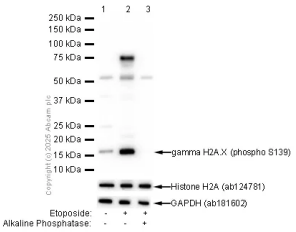
Lane 4:
Rat kidney tissue lysate at 20 µg

Secondary

All lanes:
Peroxidase-conjugated goat anti-rabbit IgG (H+L) at 1/1000 dilution

Predicted band size: 15 kDa

Observed band size: 14 kDa, 22 kDa



Western blot - Anti-Histone H2A antibody [EPR895] - Nuclear Marker (ab124781)

Histone H2A Western blot staining using rabbit Anti-Histone H2A antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/1000000 dilution.

In Western blot, Anti-Histone H2A antibody [EPR895] - Nuclear Marker (ab124781) staining at 1/2000 dilution.

The identity of the bands between 20kDa and 75kDa are unknown.

All lanes:
Western blot - Anti-gamma H2A.X (phospho S139) antibody [EP854(2)Y] (ab81299) at 1/1000 dilution

Lanes 1 - 2:
PC-12 treated with 3µM etoposide for 1-hour whole cell lysate at 20 µg

Lane 3:
PC-12 treated with 3µM etoposide for 1-hour whole cell lysate 20µg, then the membrane treated with Alkaline Phosphatase for 1 hour at 20 µg

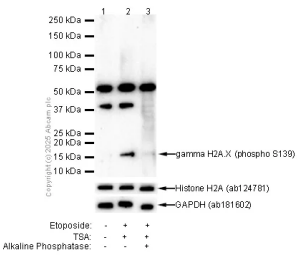
Secondary

All lanes:

Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 15 kDa

Exposure time: 3s



Western blot - Anti-Histone H2A antibody [EPR895] - Nuclear Marker (ab124781)

Histone H2A Western blot staining using rabbit Anti-Histone H2A antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/1000000 dilution.

In Western blot, Anti-Histone H2A antibody [EPR895] - Nuclear Marker (ab124781) staining at 1/2000 dilution.

The identity of the bands between 37kDa and 50kDa are unknown.

All lanes:
Western blot - Anti-gamma H2A.X (phospho S139) antibody [EP854(2)Y] (ab81299) at 1/1000 dilution

Lane 1:
Untreated NIH/3T3 (Mouse embryonic fibroblast) whole cell lysate at 20 µg

Lane 2:
NIH/3T3 treated with 30µg/ml etoposide for 4 hours, 500ng/ml Trichostatin A(TSA) was then added for additional 4 hours whole cell lysate at 20 µg

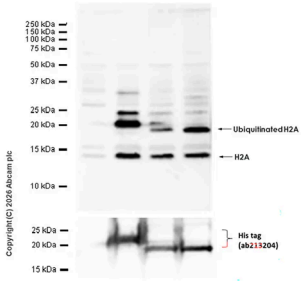
Lane 3:
NIH/3T3 treated with 30µg/ml etoposide for 4 hours, 500ng/ml Trichostatin A(TSA) was then added for additional 4 hours whole cell lysate 20µg, then the membrane treated with Alkaline Phosphatase for 1 hour at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 15 kDa

Exposure time: 180s



Western blot - Anti-Histone H2A antibody [EPR895] - Nuclear Marker (ab124781)

Histone H2A Western blot staining using rabbit Anti-Histone H2A antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST

Anti-His tag antibody (ab213204) did not detect the 14 kDa protein, indicating that the His tag may have been cleaved from the 14 kDa protein.
All lanes:
Western blot - Anti-Histone H2A antibody [EPR895] - Nuclear Marker (ab124781) at 1/1000 dilution

Lane 1:

293T cells transfected with an empty vector containing a His tag whole cell lysate at 20 µg

Lane 2:
293T cells transfected with a full-length human Histone H2AX (P16104) expression vector containing a His-tag whole cell lysate at 20 µg

Lane 3:
293T cells transfected with a full-length human Histone H2A type 1-A (Q96QV6) Expression vector containing a His-tag whole cell lysate at 20 µg

Lane 4:
293T cells transfected with a full-length human Histone H2A type 2-A (Q6FI13) expression vector containing a His-tag whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 22 kDa

Exposure time: 60s

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.